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SEQUENCE LISTING

<110> OriGene Technologies, Inc
<120> TISSUE SPECIFIC GENES AND GENE CLUSTERS

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<150> US 60/372,669
<151> 2002-04-16

<150> US 60/411,882
<151> 2002-09-20

<150> US 60/424,336
<151> 2002-11-07

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<151> 2002-05-01

<150> US 60/381,366
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<150> US 60/403,648
<151> 2002-08-16

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<170> PatentIn version 3.1

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Ile Val Leu Asp Arg Ala Leu His Ile Pro Met Tyr Phe Phe Leu Ala
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Pro Leu Arg Tyr Ser Val Leu Met Gly His Gly Val Cys Met Gly Leu
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His Phe Ser Gln Ile Val Ile Phe Met Leu Cys Thr Leu Val Leu Ala
 195 200 205

Ile Pro Leu Leu Ile Leu Val Ser Tyr Val His Ile Leu Ser Ala
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Ile Leu Gln Phe Pro Ser Thr Leu Gly Val Ile Ala Lys Arg Lys Phe
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 35 40 45

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Phe Met Ala Cys Ala Thr Gln Leu Phe Phe Leu Gly Phe Ala Cys
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Ile Cys His Pro Leu Arg Tyr Thr Leu Ile Ile Asn Lys Arg Leu Gly
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Val Asn His Tyr Phe Cys Asp Met Ala Pro Val Ile Lys Leu Ala Cys
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Thr Asp Thr His Val Lys Glu Leu Ala Leu Phe Ser Leu Ser Ile Leu
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Val Ile Met Val Pro Phe Leu Leu Ile Leu Ile Ser Tyr Gly Phe Ile
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Val Asn Thr Ile Leu Lys Ile Pro Ser Ala Glu Gly Lys Lys Ala Phe
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Asp Gln Leu Val Ala Val Thr Tyr Thr Val Val Thr Pro Leu Leu Asn
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Ile Val Leu Asp Arg Ala Leu His Thr Pro Met Tyr Phe Phe Leu Ala
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Met Leu Val Asp Leu Leu Ser Gln Lys Lys Thr Ile Ser Phe Leu Gly
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Cys Ala Ile Gln Met Phe Ser Phe Leu Phe Phe Gly Ser Ser His Ser
100 105 110

Phe Leu Leu Ala Ala Met Gly Tyr Asp Arg Tyr Met Ala Ile Cys Asn
115 120 125

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Leu Ile Ser Val Ser Tyr Thr Ile Leu Thr Pro Leu Phe Asn Pro Met
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35 40 45

Met Phe Ile Val Ile Gln Val Gly Met Ala Leu His Thr Pro Leu Tyr
50 55 60

Phe Phe Ile Ser Val Leu Ser Phe Leu Glu Ile Cys Tyr Thr Thr Thr
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Thr Ile Pro Lys Met Leu Ser Cys Leu Ile Ser Glu Gln Lys Ser Ile
85 90 95

Ser Val Ala Gly Cys Leu Leu Gln Met Tyr Phe Phe His Ser Leu Gly
100 105 110

Ile Thr Glu Ser Cys Val Leu Thr Ala Met Ala Ile Asp Arg Tyr Ile
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Ala Ile Cys Asn Pro Leu Arg Tyr Pro Thr Ile Met Ile Pro Lys Leu
130 135 140

Cys Ile Gln Leu Thr Val Gly Ser Cys Phe Cys Gly Phe Leu Leu Val
145 150 155 160

Leu Pro Glu Ile Ala Trp Ile Ser Thr Leu Pro Phe Cys Gly Ser Asn
165 170 175

Gln Ile His Gln Ile Phe Cys Asp Phe Thr Pro Val Leu Ser Leu Ala
180 185 190

Cys Thr Asp Thr Phe Leu Val Val Ile Val Asp Ala Ile His Ala Ala
195 200 205

Glu Ile Val Ala Ser Phe Leu Val Ile Ala Leu Ser Tyr Ile Arg Ile
210 215 220

Ile Ile Val Ile Leu Gly Met His Ser Ala Glu Gly His His Lys Ala
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Phe Ser Thr Cys Ala Ala His Leu Ala Val Phe Leu Leu Phe Phe Gly
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Ser Val Ala Val Met Tyr Leu Arg Phe Ser Ala Thr Tyr Ser Val Phe
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Trp Asp Thr Ala Ile Ala Val Thr Phe Val Ile Leu Ala Pro Phe Phe
275 280 285

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Gln Ile Leu Leu Phe Phe Ile Phe Leu Leu Val Tyr Leu Thr Thr Leu
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Met Ala Asn Thr Thr Ile Met Thr Val Ile His Leu Asp Arg Ala Leu
35 40 45

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His Thr Pro Met Tyr Phe Phe Leu Phe Val Leu Ser Cys Ser Glu Thr
50 55 60

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Cys Tyr Thr Leu Val Ile Val Pro Lys Met Leu Thr Asn Leu Leu Ser
65 70 75 80

gca att cca act att tct ttc tct gga tgt gtg gtc cag ctc tat tta 288
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85 90 95

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Phe Val Gly Leu Ala Cys Thr Asn Cys Phe Leu Ile Ala Val Met Gly
100 105 110

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Tyr Asp Arg Tyr Val Ala Ile Cys Asn Pro Leu Asn Tyr Thr Leu Ile
115 120 125

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35 40 45

His Thr Pro Met Tyr Phe Phe Leu Phe Val Leu Ser Cys Ser Glu Thr
50 55 60

Cys Tyr Thr Leu Val Ile Val Pro Lys Met Leu Thr Asn Leu Leu Ser
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85 90 95

Phe Val Gly Leu Ala Cys Thr Asn Cys Phe Leu Ile Ala Val Met Gly
100 105 110

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115 120 125

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130 135 140

Asn Ile Leu Val Phe Ser Val Leu Leu Cys Ala Ser Asn Arg Ile Asn
145 150 155 160

His Phe Phe Cys Asp Ile Ser Pro Val Ile Lys Leu Gly Cys Thr Asp
165 170 175

Thr Asn Leu Lys Glu Met Val Ile Phe Phe Leu Ser Ile Leu Val Leu
180 185 190

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aatatcatac	tgaatggcA	aaaactggAA	gcattccCT	tgaaaacggg	cacaagacAG	4982
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Leu Ile Tyr Leu Met Thr Val Leu Gly Asn Leu Leu Ile Phe Leu Val
35 40 45

Val Cys Leu Asp Ser Arg Leu His Thr Pro Met Tyr His Phe Val Ser
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Ile Leu Ser Phe Ser Glu Leu Gly Tyr Thr Ala Ala Thr Ile Pro Lys
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Met Leu Ala Asn Leu Leu Ser Glu Lys Lys Thr Ile Ser Phe Ser Gly
85 90 95

Cys Leu Leu Gln Ile Tyr Phe Phe His Ser Leu Gly Ala Thr Glu Cys
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Tyr Leu Leu Thr Ala Met Ala Tyr Asp Arg Tyr Leu Ala Ile Cys Arg
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Pro Leu His Tyr Pro Thr Leu Met Thr Pro Thr Leu Cys Ala Glu Ile
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Ala Ile Gly Cys Trp Leu Gly Gly Leu Ala Gly Pro Val Val Glu Ile
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Ser Leu Ile Ser Arg Leu Pro Phe Cys Gly Pro Asn Arg Ile Gln His
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Val Phe Cys Asp Phe Pro Pro Val Leu Ser Leu Ala Cys Thr Asp Thr
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Ser Ile Asn Val Leu Val Asp Phe Val Ile Asn Ser Cys Lys Ile Leu
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Ala Thr Phe Leu Leu Ile Leu Cys Ser Tyr Val Gln Ile Ile Cys Thr
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16U 200 PCT FINAL.ST25

Val Leu Arg Ile Pro Ser Ala Ala Gly Lys Arg Lys Ala Ile Ser Thr
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Cys Ala Ser His Phe Thr Val Val Leu Ile Phe Tyr Gly Ser Ile Leu
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Ser Met Tyr Val Gln Leu Lys Lys Ser Tyr Ser Leu Asp Tyr Asp Gln
260 265 270

Ala Leu Ala Val Val Tyr Ser Val Leu Thr Pro Phe Leu Asn Pro Phe
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16U 200 PCT FINAL.ST25

<213> Homo sapiens

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Cys Ile Tyr Leu Leu Thr Leu Ala Gly Asn Ile Leu Ile Ile Val Leu
35 40 45

Arg Cys Gly Met Ser Ala Pro Gln Cys Pro Cys Cys Cys Thr Pro Cys
50 55 60

Ser Lys Gly Val His Pro Ser His Gln Leu Tyr Ala Leu Phe Ser Tyr
65 70 75 80

Val Phe His Ser Leu Gly Met Thr Glu Cys Tyr Leu Leu Gly Val Met
85 90 95

Ala Leu Asp Ser Tyr Leu Ile Ile Cys His Pro Leu His Tyr His Ala
100 105 110

Leu Met Ser Arg Gln Val Gln Leu Arg Leu Ala Gly Ala Ser Trp Val
115 120 125

Ala Gly Phe Ser Ala Ala Leu Val Pro Ala Thr Leu Thr Ala Thr Leu
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Pro Phe Cys Leu Lys Glu Val Ala His Tyr Phe Cys Asp Leu Ala Pro
145 150 155 160

Leu Met Arg Leu Ala Cys Val Asp Thr Ser Trp His Ala Arg Ala His
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180 185 190

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195 200 205

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210 215 220

Val Ala Leu Phe Tyr Ala Ser Ala Phe Thr Val Tyr Val Gly Ser Pro
225 230 235 240

Gly Ser Arg Pro Glu Ser Thr Asp Lys Leu Val Ala Leu Val Tyr Ala
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48

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Gln Leu Ala Leu Phe Val Val Phe Leu Phe Leu Tyr Leu Val Ile Leu
20 25 30

96

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Ser Gly Asn Val Thr Ile Ile Ser Val Ile His Leu Asp Lys Ser Leu
35 40 45

144

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His Thr Pro Met Tyr Phe Phe Leu Gly Ile Leu Ser Thr Ser Glu Thr
50 55 60

192

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Phe Tyr Thr Phe Val Ile Leu Pro Lys Met Leu Ile Asn Leu Leu Ser
65 70 75 80

240

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85 90 95

288

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336

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Ser Glu Leu Val Ile Phe Ile Phe Gly Val Leu Val Leu Val Val Pro			
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Leu Ile Phe Ile Cys Ile Ser Tyr Gly Phe Ile Val Arg Thr Ile Leu			
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Lys Ile Pro Ser Ala Glu Gly Lys Gln Lys Ala Phe Ser Thr Cys Ala			
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His Thr Pro Met Tyr Phe Phe Leu Gly Ile Leu Ser Thr Ser Glu Thr			
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Phe Tyr Thr Phe Val Ile Leu Pro Lys Met Leu Ile Asn Leu Leu Ser			
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Phe Ile Cys Gly Val Leu Val Leu Val Val Pro Phe Leu Phe Ile Cys			
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Val Ser Tyr Leu Cys Ile Leu Arg Thr Ile Leu Lys Ile Pro Ser Ala
210 215 220

Glu Gly Arg Arg Lys Ala Phe Ser Thr Cys Ala Ser His Leu Ser Val
225 230 235 240

Val Ile Val His Tyr Gly Cys Ala Ser Phe Ile Tyr Leu Arg Pro Thr
245 250 255

Ala Asn Tyr Val Ser Asn Lys Asp Arg Leu Val Thr Val Thr Tyr Thr
260 265 270

Ile Val Thr Pro Leu Leu Asn Pro Met Val Tyr Ser Leu Arg Asn Lys
275 280 285

Asp Val Gln Leu Ala Ile Arg Lys Val Leu Gly Lys Lys Gly Ile Leu
290 295 300

Ser Ile Ser Glu Ile Phe Tyr Thr Thr Val Ile Leu Pro Lys Met Leu
305 310 315 320

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325 330 335

Thr Gln Met Phe Phe Leu Gly Phe Ala Val Thr Asn Cys Leu Leu
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Leu Gly Val Met Gly Tyr Asp Arg Tyr Ala Ala Ile Cys Gln Pro Leu
355 360 365

Gln Tyr Ala Val Leu Met Ser Trp Arg Val Cys Gly Gln Leu Ile Ala
370 375 380

Thr Cys Ile Ile Ser Gly Phe Leu Ile Ser Leu Val Gly Thr Thr Phe
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Val Phe Ser Leu Pro Phe Cys Gly Ser Asn Lys Val Asn His Tyr Phe
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Cys Asp Ile Ser Pro Val Ile Arg Leu Ala Cys Ala Asp Ser Tyr Ile
420 425 430

Ser Glu Leu Val Ile Phe Ile Phe Gly Val Leu Val Leu Val Val Pro
435 440 445

Leu Ile Phe Ile Cys Ile Ser Tyr Gly Phe Ile Val Arg Thr Ile Leu
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Ser His Leu Ile Val Val Ile Val His Tyr Gly
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96

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144

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192

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240

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276

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Leu Leu Ile Gln Leu Ala Cys Thr Asp Thr Tyr Ile Arg Glu Leu Val
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Ala Ser His Leu Thr Ala Ile Thr Ile Phe His Gly Thr Ile Leu Phe																																																																																													
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Lys	Ile	Gly	Met	Ala	Ala	Val	Ala	Arg	Ala	Val	Thr	Leu	Met	Thr	Pro
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Val Val Leu Asp Leu Leu Leu Val Ile Leu Ser Tyr Ile Phe Ile Leu
210 215 220

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His Val His Ile Leu Leu Ala Asn Phe Tyr Leu Leu Phe Pro Pro Met
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Gly	Val	Arg	Asp	Trp	Thr	Leu	Leu	Gln	Leu	Val	Val	Ser	Val	Pro	Phe
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Thr	Cys	Ile	Ser	Thr	Leu	Cys	Trp	Phe	Ala	Phe	Gly	Phe	Thr	Phe	Phe
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Leu	Leu	Leu	Ser	His	Leu	Gly	Arg	Arg	Pro	Thr	Leu	Ala	Ala	Ser	Leu
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Leu	Leu	Ala	Gly	Leu	Cys	Ile	Leu	Ala	Asn	Thr	Leu	Val	Pro	His	Glu
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Gly	Ala	Ala	Phe	Thr	Cys	Ile	Thr	Ile	Tyr	Ser	Ser	Glu	Leu	Phe	Pro
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Thr Val Leu Arg Met Thr Ala Val Gly Leu Gly Gln Met Ala Ala Arg
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Gly Gly Ala Ile Leu Gly Pro Leu Val Arg Leu Leu Gly Val His Gly
260 265 270

Pro Trp Leu Pro Leu Leu Val Tyr Gly Thr Val Pro Val Leu Ser Gly
275 280 285

Leu Ala Ala Leu Leu Leu Pro Glu Thr Gln Ser Leu Pro Leu Pro Asp
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Cys Leu Leu Ala Leu Gln His Val Leu Val Met Ala Ser Leu Leu Cys
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Val Ser His Leu Leu Leu Cys Ser Leu Ser Pro Gly Gly Leu Ser
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Tyr Ser Pro Ser Gln Leu Leu Ala Ser Ser Phe Phe Ser Cys Gly Met
85 90 95

Ser Thr Ile Leu Gln Thr Trp Met Gly Ser Arg Leu Pro Leu Val Gln
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Ala Pro Ser Leu Glu Phe Leu Ile Pro Ala Leu Val Leu Thr Ser Gln
115 120 125

Lys Leu Pro Arg Ala Ile Gln Thr Pro Gly Asn Ser Ser Leu Met Leu
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His Leu Cys Arg Gly Pro Ser Cys His Gly Leu Gly His Trp Asn Thr
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Ser Leu Gln Glu Val Ser Gly Ala Val Val Val Ser Gly Leu Leu Gln
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Gly Met Met Gly Leu Leu Gly Ser Pro Gly His Val Phe Pro His Cys
180 185 190

Gly Pro Leu Val Leu Ala Pro Ser Leu Val Val Ala Gly Leu Ser Ala
195 200 205

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<210> 87
<211> 516
<212> PRT
<213> Homo sapiens

<400> 87

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Trp Leu Leu Glu Gln Pro Gly Lys Glu Glu Lys Arg Lys Thr Met Ala		
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Lys Val Asn Arg Ala Arg Ser Thr Ser Pro Pro Asp Gly Gly Trp Gly		
35	40	45

Trp Met Ile Val Ala Gly Cys Phe Leu Val Thr Ile Cys Thr Arg Ala		
50	55	60

Val Thr Arg Cys Ile Ser Ile Phe Phe Val Glu Phe Gln Thr Tyr Phe			
65	70	75	80

Thr Gln Asp Tyr Ala Gln Thr Ala Trp Ile His Ser Ile Val Asp Cys		
85	90	95

Val Thr Met Leu Cys Ala Pro Leu Gly Ser Val Val Ser Asn His Leu		
100	105	110

Ser Cys Gln Val Gly Ile Met Leu Gly Gly Leu Leu Ala Ser Thr Gly		
115	120	125

Leu Ile Leu Ser Ser Phe Ala Thr Ser Leu Lys His Leu Tyr Leu Thr		
130	135	140

Leu Gly Val Leu Thr Gly Leu Gly Phe Ala Leu Cys Tyr Ser Pro Ala			
145	150	155	160

Ile Ala Met Val Gly Lys Tyr Phe Ser Arg Arg Lys Ala Leu Ala Tyr		
165	170	175

Gly Ile Ala Met Ser Gly Ser Gly Ile Gly Thr Phe Ile Leu Ala Pro		
180	185	190

Val Val Gln Leu Leu Ile Glu Gln Phe Ser Trp Arg Gly Ala Leu Leu		
195	200	205

Ile Leu Gly Gly Phe Val Leu Asn Leu Cys Val Cys Gly Ala Leu Met		
210	215	220

Arg Pro Ile Thr Leu Lys Glu Asp His Thr Thr Pro Glu Gln Asn His			
225	230	235	240

Val Cys Arg Thr Gln Lys Glu Asp Ile Lys Arg Val Ser Pro Tyr Ser		
245	250	255

16U 200 PCT FINAL.ST25
Ser Leu Thr Lys Glu Trp Ala Gln Thr Cys Leu Cys Cys Cys Leu Gln
260 265 270

Gln Glu Tyr Ser Phe Leu Leu Met Ser Asp Phe Val Val Leu Ala Val
275 280 285

Ser Val Leu Phe Met Ala Tyr Gly Cys Ser Pro Leu Phe Val Tyr Leu
290 295 300

Val Pro Tyr Ala Leu Ser Val Gly Val Ser His Gln Gln Ala Ala Phe
305 310 315 320

Leu Met Ser Ile Leu Gly Val Ile Asp Ile Ile Gly Asn Ile Thr Phe
325 330 335

Gly Trp Leu Thr Asp Arg Arg Cys Leu Lys Asn Tyr Gln Tyr Val Cys
340 345 350

Tyr Leu Phe Ala Val Gly Met Asp Gly Leu Cys Tyr Leu Cys Leu Pro
355 360 365

Met Leu Gln Ser Leu Pro Leu Leu Val Pro Phe Ser Cys Thr Phe Gly
370 375 380

Tyr Phe Asp Gly Ala Tyr Val Thr Leu Ile Pro Val Val Thr Thr Glu
385 390 395 400

Ile Val Gly Thr Thr Ser Leu Ser Ser Ala Leu Gly Val Val Tyr Phe
405 410 415

Leu His Ala Val Pro Tyr Leu Val Ser Pro Pro Ile Ala Gly Arg Leu
420 425 430

Val Asp Thr Thr Gly Ser Tyr Thr Ala Ala Phe Leu Leu Cys Gly Phe
435 440 445

Ser Met Ile Phe Ser Ser Val Leu Leu Gly Phe Ala Arg Leu Ile Lys
450 455 460

Arg Met Arg Lys Thr Gln Leu Gln Phe Ile Ala Lys Glu Ser Asp Pro
465 470 475 480

Lys Leu Gln Leu Trp Thr Asn Gly Ser Val Ala Tyr Ser Val Ala Arg
485 490 495

Glu Leu Asp Gln Lys His Gly Glu Pro Val Ala Thr Ala Val Pro Gly
500 505 510

Tyr Ser Leu Thr
515

<210> 88
<211> 2150
<212> DNA
<213> Homo sapiens

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<222> (63)..(1760)
<223>

<400> 88

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tgc cct gcc ctc agc agg ctg gtt ccc aga ggc ttt ggg act gag atg Cys Pro Ala Leu Ser Arg Leu Val Pro Arg Gly Phe Gly Thr Glu Met 20 25 30	155
tgg act ctc ttt gcc ctt tct gga ccc ctg ttc ctg ttc cag gtg ctg Trp Thr Leu Phe Ala Leu Ser Gly Pro Leu Phe Leu Phe Gln Val Leu 35 40 45	203
act ttt atg atc tac atc gtg agc act gtg ttc tgc ggg cac ctg ggc Thr Phe Met Ile Tyr Ile Val Ser Thr Val Phe Cys Gly His Leu Gly 50 55 60	251
aag gtg gag ctg gca tcg gtg acc ctc gcg gtg gcc ttt gtc aat gtc Lys Val Glu Leu Ala Ser Val Thr Leu Ala Val Ala Phe Val Asn Val 65 70 75	299
tgc gga gtt tct gta gga gtt ggt ttg tct tcg gca tgt gac acc ttg Cys Gly Val Ser Val Gly Val Gly Leu Ser Ser Ala Cys Asp Thr Leu 80 85 90 95	347
atg tct cag agc ttc ggc agc ccc aac aag aag cac gtg ggc gtg atc Met Ser Gln Ser Phe Gly Ser Pro Asn Lys Lys His Val Gly Val Ile 100 105 110	395
ctg cag cgg ggc gcg ctg gtc ctg ctc tgc tgc ctc cct tgc tgg Leu Gln Arg Gly Ala Leu Val Leu Leu Cys Cys Leu Pro Cys Trp 115 120 125	443
gcg ctc ttc ctc aac acc cag cac atc ctg ctg ctc ttc cgg cag gac Ala Leu Asn Thr Gln His Ile Leu Leu Phe Arg Gln Asp 130 135 140	491
ccg gac gtg tcc agg ttg acc cag gac tat gta atg att ttc att cca Pro Asp Val Ser Arg Leu Thr Gln Asp Tyr Val Met Ile Phe Ile Pro 145 150 155	539
gga ctt ccg gtg att ttt ctt tac aat ctg ctg gca aaa tat ttg caa Gly Leu Pro Val Ile Phe Leu Tyr Asn Leu Leu Ala Lys Tyr Leu Gln 160 165 170 175	587
aat cag aag atc acc tgg ccc caa gtc ctc agt ggt gtg gtg ggc aac Asn Gln Lys Ile Thr Trp Pro Gln Val Leu Ser Gly Val Val Gly Asn 180 185 190	635
tgt gtc aac ggt gtg gcc aac tat gcc ctg gtt tct gtg ctg aac ctg Cys Val Asn Gly Val Ala Asn Tyr Ala Leu Val Ser Val Asn Leu 195 200 205	683
ggg gtc agg ggc tcc gcc tat gcc aac atc atc tcc cag ttt gca cag Gly Val Arg Gly Ser Ala Tyr Ala Asn Ile Ile Ser Gln Phe Ala Gln 210 215 220	731
acc gtc ttc ctc ctt ctc tac att gtg ctg aag aag ctg cac ctg gag Thr Val Phe Leu Leu Tyr Ile Val Leu Lys Lys Leu His Leu Glu 225 230 235	779
acg tgg gca ggt tgg tcc agc cag tgc ctg cag gac tgg ggc ccc ttc Thr Trp Ala Gly Trp Ser Ser Gln Cys Leu Gln Asp Trp Gly Pro Phe 240 245 250 255	827
ttc tcc ctg gtc ccc agc atg ctc atg atc tgt gtt gag tgg tgg Phe Ser Leu Ala Val Pro Ser Met Leu Met Ile Cys Val Glu Trp Trp 260 265 270	875
gcc tat gag atc ggg agc ttc ctc atg ggg ctg ctc agt gtg gtg gat Ala Tyr Glu Ile Gly Ser Phe Leu Met Gly Leu Leu Ser Val Val Asp 275 280 285	923
ctc tct gcc cag gct gtc atc tac gag gtg gcc act gtg acc tac atg Leu Ser Ala Gln Ala Val Ile Tyr Glu Val Ala Thr Val Thr Tyr Met 290 295 300	971
att ccc ttg ggg ctc agc atc ggg gtc tgt gtc cga gtg ggg atg gct	1019

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Ile Pro Leu Gly Leu Ser Ile Gly Val Cys Val Arg Val Gly Met Ala			
305	310	315	
ctg ggg gct gcg gat act gtg cag gcc aag cgc tcg gcc gtc tcg ggc		1067	
Leu Gly Ala Ala Asp Thr Val Gln Ala Lys Arg Ser Ala Val Ser Gly			
320	325	330	335
gtg ctc agc ata gtt ggc att tcc ctg gtc ctg ggc acc ctg ata agc		1115	
Val Leu Ser Ile Val Gly Ile Ser Leu Val Leu Gly Thr Leu Ile Ser			
340	345	350	
atc ctg aaa aat cag ctg ggg cat att ttt acc aat gat gaa gat gtc		1163	
Ile Leu Lys Asn Gln Leu Gly His Ile Phe Thr Asn Asp Glu Asp Val			
355	360	365	
att gcc ctg gtg agc cag gtc ttg ccg gtt tat agt gtc ttt cac gtg		1211	
Ile Ala Leu Val Ser Gin Val Leu Pro Val Tyr Ser Val Phe His Val			
370	375	380	
ttt gag gcc atc tgt tgt gtc tat ggc gga gtt ctg aga gga act ggg		1259	
Phe Glu Ala Ile Cys Cys Val Tyr Gly Gly Val Leu Arg Gly Thr Gly			
385	390	395	
aag cag gcc ttt ggt gcc gct gtg aat gcc atc aca tat tac atc atc		1307	
Lys Gln Ala Phe Gly Ala Ala Val Asn Ala Ile Thr Tyr Tyr Ile Ile			
400	405	410	415
ggc cta cca ctg ggc atc ctt ctg acc ttt gtg gtc aga atg aga atc		1355	
Gly Leu Pro Leu Gly Ile Leu Leu Thr Phe Val Val Arg Met Arg Ile			
420	425	430	
atg ggc ctc tgg ctg ggc atg ctg gcc tgt gtc ttc ctg gca act gct		1403	
Met Gly Leu Trp Leu Gly Met Leu Ala Cys Val Phe Leu Ala Thr Ala			
435	440	445	
gcc ttt gtt gct tat act gcc cgg ctg gac tgg aag ctt gct gca gag		1451	
Ala Phe Val Ala Tyr Thr Ala Arg Leu Asp Trp Lys Leu Ala Ala Glu			
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gag gct aag aaa cat tca ggc cgg cag cag cag cag aga gca gag agc		1499	
Glu Ala Lys Lys His Ser Gly Arg Gln Gln Gln Arg Ala Glu Ser			
465	470	475	
act gca acc aga cct ggg cct gag aaa gca gtc cta tct tca gtg gct		1547	
Thr Ala Thr Arg Pro Gly Pro Glu Lys Ala Val Leu Ser Ser Val Ala			
480	485	490	495
aca ggc agt tcc cct ggc att acc ttg aca acg tat tca agg tct gag		1595	
Thr Gly Ser Ser Pro Gly Ile Thr Leu Thr Thr Tyr Ser Arg Ser Glu			
500	505	510	
tgc cac gtc gac ttc ttc agg act cca gag gag gcc cac gcc ctt tca		1643	
Cys His Val Asp Phe Phe Arg Thr Pro Glu Glu Ala His Ala Leu Ser			
515	520	525	
gct cct acc agc aga cta tca gtg aaa cag ctg gtc atc cgc cgt ggg		1691	
Ala Pro Thr Ser Arg Leu Ser Val Lys Gln Leu Val Ile Arg Arg Gly			
530	535	540	
gct gct ctg ggg gcg gcg tca gcc aca ctg atg gtg ggg ctc acg gtc		1739	
Ala Ala Leu Gly Ala Ala Ser Ala Thr Leu Met Val Gly Leu Thr Val			
545	550	555	
agg atc cta gcc acc agg cac tagcaaagaa gcttgaaat agaaaagccag		1790	
Arg Ile Leu Ala Thr Arg His			
560	565		
gagtggctgt cccaggatgt caaacacacc acggctgcc ctgaaaaac accaatgggg		1850	
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16U 200 PCT FINAL.ST25

<210> 89
<211> 566
<212> PRT
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<400> 89

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35 40 45

Phe Met Ile Tyr Ile Val Ser Thr Val Phe Cys Gly His Leu Gly Lys
50 55 60

Val Glu Leu Ala Ser Val Thr Leu Ala Val Ala Phe Val Asn Val Cys
65 70 75 80

Gly Val Ser Val Gly Val Gly Leu Ser Ser Ala Cys Asp Thr Leu Met
85 90 95

Ser Gln Ser Phe Gly Ser Pro Asn Lys Lys His Val Gly Val Ile Leu
100 105 110

Gln Arg Gly Ala Leu Val Leu Leu Cys Cys Leu Pro Cys Trp Ala
115 120 125

Leu Phe Leu Asn Thr Gln His Ile Leu Leu Leu Phe Arg Gln Asp Pro
130 135 140

Asp Val Ser Arg Leu Thr Gln Asp Tyr Val Met Ile Phe Ile Pro Gly
145 150 155 160

Leu Pro Val Ile Phe Leu Tyr Asn Leu Leu Ala Lys Tyr Leu Gln Asn
165 170 175

Gln Lys Ile Thr Trp Pro Gln Val Leu Ser Gly Val Val Gly Asn Cys
180 185 190

Val Asn Gly Val Ala Asn Tyr Ala Leu Val Ser Val Leu Asn Leu Gly
195 200 205

Val Arg Gly Ser Ala Tyr Ala Asn Ile Ile Ser Gln Phe Ala Gln Thr
210 215 220

Val Phe Leu Leu Tyr Ile Val Leu Lys Lys Leu His Leu Glu Thr
225 230 235 240

Trp Ala Gly Trp Ser Ser Gln Cys Leu Gln Asp Trp Gly Pro Phe Phe
245 250 255

Ser Leu Ala Val Pro Ser Met Leu Met Ile Cys Val Glu Trp Trp Ala
260 265 270

Tyr Glu Ile Gly Ser Phe Leu Met Gly Leu Leu Ser Val Val Asp Leu
275 280 285

16U 200 PCT FINAL.ST25

Ser Ala Gln Ala Val Ile Tyr Glu Val Ala Thr Val Thr Tyr Met Ile
290 295 300

Pro Leu Gly Leu Ser Ile Gly Val Cys Val Arg Val Gly Met Ala Leu
305 310 315 320

Gly Ala Ala Asp Thr Val Gln Ala Lys Arg Ser Ala Val Ser Gly Val
325 330 335

Leu Ser Ile Val Gly Ile Ser Leu Val Leu Gly Thr Leu Ile Ser Ile
340 345 350

Leu Lys Asn Gln Leu Gly His Ile Phe Thr Asn Asp Glu Asp Val Ile
355 360 365

Ala Leu Val Ser Gln Val Leu Pro Val Tyr Ser Val Phe His Val Phe
370 375 380

Glu Ala Ile Cys Cys Val Tyr Gly Gly Val Leu Arg Gly Thr Gly Lys
385 390 395 400

Gln Ala Phe Gly Ala Ala Val Asn Ala Ile Thr Tyr Tyr Ile Ile Gly
405 410 415

Leu Pro Leu Gly Ile Leu Leu Thr Phe Val Val Arg Met Arg Ile Met
420 425 430

Gly Leu Trp Leu Gly Met Leu Ala Cys Val Phe Leu Ala Thr Ala Ala
435 440 445

Phe Val Ala Tyr Thr Ala Arg Leu Asp Trp Lys Leu Ala Ala Glu Glu
450 455 460

Ala Lys Lys His Ser Gly Arg Gln Gln Gln Arg Ala Glu Ser Thr
465 470 475 480

Ala Thr Arg Pro Gly Pro Glu Lys Ala Val Leu Ser Ser Val Ala Thr
485 490 495

Gly Ser Ser Pro Gly Ile Thr Leu Thr Thr Tyr Ser Arg Ser Glu Cys
500 505 510

His Val Asp Phe Phe Arg Thr Pro Glu Glu Ala His Ala Leu Ser Ala
515 520 525

Pro Thr Ser Arg Leu Ser Val Lys Gln Leu Val Ile Arg Arg Gly Ala
530 535 540

Ala Leu Gly Ala Ala Ser Ala Thr Leu Met Val Gly Leu Thr Val Arg
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Ile Leu Ala Thr Arg His
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<211> 3067
<212> DNA
<213> Homo sapiens

<220>

16U 200 PCT FINAL.ST25

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<222> (36)..(2984)
<223>

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Gly Gln Glu Gly Phe Glu Ala Ser Ser Ala Pro Arg Asn Ile Pro Ser
10 15 20

ggg gag ctg gac aac cct gac cct ggc acc ggc ccc agc cct gat 149
Gly Glu Leu Asp Ser Asn Pro Asp Pro Gly Thr Gly Pro Ser Pro Asp
25 30 35

ggc ccc tca gac aca gag agc aag gaa ctg gga gta ccc aaa gac cct 197
Gly Pro Ser Asp Thr Glu Ser Lys Glu Leu Gly Val Pro Lys Asp Pro
40 45 50

ctg ctc ttc att cag ctg aat gag ctg ctg ggc tgg ccc cag gcg ctg 245
Leu Leu Phe Ile Gln Leu Asn Glu Leu Leu Gly Trp Pro Gln Ala Leu
55 60 65 70

gag tgg aga gag aca ggc agc tcc tct gca tct ctg ctc ctg gac atg 293
Glu Trp Arg Glu Thr Gly Ser Ser Ala Ser Leu Leu Leu Asp Met
75 80 85

gga gaa atg ccc tca ata aca ctg tct acc cac ctt cat cac agg tgg 341
Gly Glu Met Pro Ser Ile Thr Leu Ser Thr His Leu His His Arg Trp
90 95 100

gta ctg ttt gag gag aag ttg gag gtg gct gca ggc cgg tgg agt gcc 389
Val Leu Phe Glu Glu Lys Leu Glu Val Ala Ala Gly Arg Trp Ser Ala
105 110 115

ccc cac gtg ccc acc ctg gca ctg ccc agc ctc cag aag ctc cgc agc 437
Pro His Val Pro Thr Leu Ala Leu Pro Ser Leu Gln Lys Leu Arg Ser
120 125 130

ctg ctg gcc gag ggc ctt gta ctg ctg gac tgc cca gct cag agc ctc 485
Leu Leu Ala Glu Gly Leu Val Leu Leu Asp Cys Pro Ala Gln Ser Leu
135 140 145 150

ctg gag ctc gtg gag cag gtg acc agg gtg gag tcg ctg agc cca gag 533
Leu Glu Leu Val Glu Gln Val Thr Arg Val Glu Ser Leu Ser Pro Glu
155 160 165

ctg aga ggg cag ttg cag gcc ttg ctg ctg cag aga ccc cag cat tac 581
Leu Arg Gly Gln Leu Gln Ala Leu Leu Leu Gln Arg Pro Gln His Tyr
170 175 180

aac cag acc aca ggc acc agg ccc tgc tgg ggc tct act cat cca aga 629
Asn Gln Thr Thr Gly Thr Arg Pro Cys Trp Gly Ser Thr His Pro Arg
185 190 195

aag gct tct gac aat gag gaa gcc ccc ctg agg gaa cag tgt cag aac 677
Lys Ala Ser Asp Asn Glu Glu Ala Pro Leu Arg Glu Gln Cys Gln Asn
200 205 210

ccc ctg aga cag aag cta cct cca gga gct gag gca ggg act gtg ctg 725
Pro Leu Arg Gln Lys Leu Pro Pro Gly Ala Glu Ala Gly Thr Val Leu
215 220 225 230

gca ggg gag ctg ggc ttc ctg gca cag cca ctg gga gcc ttt gtt cga 773
Ala Gly Glu Leu Gly Phe Leu Ala Gln Pro Leu Gly Ala Phe Val Arg
235 240 245

ctg cgg aac cct gtg gta ctg ggg tcc ctt act gag gtg tcc ctc cca 821
Leu Arg Asn Pro Val Val Leu Gly Ser Leu Thr Glu Val Ser Leu Pro
250 255 260

agc agg ttt ttc tgc ctt ctc ctg ggc ccc tgt atg ctg gga aag ggc 869
Ser Arg Phe Phe Cys Leu Leu Leu Gly Pro Cys Met Leu Gly Lys Gly
265 270 275

tac cat gag atg gga cgg gca gca gct gtc ctc ctc agt gac ccg caa 917
Tyr His Glu Met Gly Arg Ala Ala Val Leu Ser Asp Pro Gln

280	285	16U 200 PCT FINAL.ST25 290	
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gcc ctg gat gca ttc cta gag gag gtg aca gtg ctt ccc cca ggt cg ^g Ala Leu Asp Ala Phe Leu Glu Val Thr Val Leu Pro Pro Gly Arg 315 320 325			1013
tgg gac cca aca gcc cg ^g att ccc ccg ccc aaa tgt ctg cca tct cag Trp Asp Pro Thr Ala Arg Ile Pro Pro Lys Cys Leu Pro Ser Gln 330 335 340			1061
cac aaa agg ctt ccc tcg caa cag cg ^g gag atc aga ggt ccc gcc gtc His Lys Arg Leu Pro Ser Gln Gln Arg Glu Ile Arg Gly Pro Ala Val 345 350 355			1109
ccg cgc ctg acc tcg gct gag gac agg cac cgc cat ggg cca cac gca Pro Arg Leu Thr Ser Ala Glu Asp Arg His Arg His Gly Pro His Ala 360 365 370			1157
cac agc ccg gag ttg cag cg ^g acc ggc agg ctg ttt ggg ggc ctt atc His Ser Pro Glu Leu Gln Arg Thr Gly Arg Leu Phe Gly Gly Leu Ile 375 380 385 390			1205
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gcc ctg cat ctc cag tgc ttc tcg gcc gta ctc tac att tac ctg gcc Ala Leu His Leu Gln Cys Phe Ser Ala Val Leu Tyr Ile Tyr Leu Ala 410 415 420			1301
act gtc act aat gcc atc act ttt ggg ggt ctg ctg gga gat gcc act Thr Val Asn Ala Ile Thr Phe Gly Gly Leu Leu Gly Asp Ala Thr 425 430 435			1349
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gga gct gcc ttc tgc ctg atg gca ggc cag ccc ctc acc att ctg agc Gly Ala Ala Phe Cys Leu Met Ala Gly Gln Pro Leu Thr Ile Leu Ser 455 460 465 470			1445
agc acg ggg cca gtg gtc ttt gag cg ^g ctg ctc ttc tct ttc agc Ser Thr Gly Pro Val Leu Val Phe Glu Arg Leu Leu Phe Ser Phe Ser 475 480 485			1493
aga gat tac agc ctg gac tac ctg ccc ttc cg ^g cta tgg gtg ggc atc Arg Asp Tyr Ser Leu Asp Tyr Leu Pro Phe Arg Leu Trp Val Gly Ile 490 495 500			1541
tgg gtg gct acc ttt tgc ctg gtg ctg gtg gcc aca gag ggc agt gtg Trp Val Ala Thr Phe Cys Leu Val Leu Val Ala Thr Glu Ala Ser Val 505 510 515			1589
ctg gtg cg ^g tac ttc acc cg ^g ttc act gag gaa ggt ttc tgt gcc ctc Leu Val Arg Tyr Phe Thr Arg Phe Thr Glu Glu Gly Phe Cys Ala Leu 520 525 530			1637
atc agc ctc atc ttc atc tac gat gct gtg ggc aaa atg ctg aac ttg Ile Ser Leu Ile Phe Ile Tyr Asp Ala Val Gly Lys Met Leu Asn Leu 535 540 545 550			1685
acc cat acc tat cct atc cag aag cct ggg tcc tct gcc tac ggg tgc Thr His Thr Tyr Pro Ile Gln Lys Pro Gly Ser Ser Ala Tyr Gly Cys 555 560 565			1733
ctc tgc caa tac cca ggc cca gga gga aat gag tct caa tgg ata agg Leu Cys Gln Tyr Pro Gly Pro Gly Gly Asn Glu Ser Gln Trp Ile Arg 570 575 580			1781
aca agg cca aaa gac aga gac gac att gta agc atg gac tta ggc ctg Thr Arg Pro Lys Asp Arg Asp Ile Val Ser Met Asp Leu Gly Leu 585 590 595			1829
atc aat gca tcc ttg ctg ccg cca cct gag tgc acc cg ^g cag gga ggc			1877

16U 200 PCT FINAL.ST25

Ile Asn Ala Ser Leu Leu Pro Pro Pro Glu Cys Thr Arg Gln Gly Gly	
600 605 610	
cac cct cgt ggc cct ggc tgt cat aca gtc cca gac att gcc ttc ttc	1925
His Pro Arg Gly Pro Gly Cys His Thr Val Pro Asp Ile Ala Phe Phe	
615 620 625 630	
tcc ctt ctc ctc ttc ctt act tct ttc ttc ttt gct atg gcc ctc aag	1973
Ser Leu Leu Leu Phe Leu Thr Ser Phe Phe Ala Met Ala Leu Lys	
635 640 645	
tgt gta aag acc agc cgc ttc ttc ccc tct gtg gtg cgc aaa ggg ctc	2021
Cys Val Lys Thr Ser Arg Phe Phe Pro Ser Val Val Arg Lys Gly Leu	
650 655 660	
agc gac ttc tcc tca gtc ctg gcc atc ctg ctc ggc tgt ggc ctt gat	2069
Ser Asp Phe Ser Ser Val Leu Ala Ile Leu Leu Gly Cys Gly Leu Asp	
665 670 675	
gct ttc ctg ggc cta gcc aca cca aag ctc atg gta ccc aga gag ttc	2117
Ala Phe Leu Gly Leu Ala Thr Pro Lys Leu Met Val Pro Arg Glu Phe	
680 685 690	
aag ccc aca ctc cct ggg cgt ggc tgg ctg gtg tca cct ttt gga gcc	2165
Lys Pro Thr Leu Pro Gly Arg Gly Trp Leu Val Ser Pro Phe Gly Ala	
695 700 705 710	
aac ccc tgg tgg tgg agt gtg gca gct gcc ctg cct gcc ctg ctg ctg	2213
Asn Pro Trp Trp Trp Ser Val Ala Ala Leu Pro Ala Leu Leu Leu	
715 720 725	
tct atc ctc atc ttc atg gac caa cag atc aca gca gtc atc ctc aac	2261
Ser Ile Leu Ile Phe Met Asp Gln Gln Ile Thr Ala Val Ile Leu Asn	
730 735 740	
cgc atg gaa tac aga ctg cag aag gga gct ggc ttc cac ctg gac ctc	2309
Arg Met Glu Tyr Arg Leu Gln Lys Gly Ala Gly Phe His Leu Asp Leu	
745 750 755	
ttc tgt gtg gct gtg ctg atg cta ctc aca tca gcg ctt gga ctg cct	2357
Phe Cys Val Ala Val Leu Met Leu Leu Thr Ser Ala Leu Gly Leu Pro	
760 765 770	
tgg tat gtc tca gcc act gtc atc tcc ctg gct cac atg gac agt ctt	2405
Trp Tyr Val Ser Ala Thr Val Ile Ser Leu Ala His Met Asp Ser Leu	
775 780 785 790	
cgg aga gag agc aga gcc tgt gcc ccc ggg gag cgc ccc aac ttc ctg	2453
Arg Arg Glu Ser Arg Ala Cys Ala Pro Gly Glu Arg Pro Asn Phe Leu	
795 800 805	
ggt atc agg gaa cag agg ctg aca ggc ctg gtg gtg ttc atc ctt aca	2501
Gly Ile Arg Glu Gln Arg Leu Thr Gly Leu Val Val Phe Ile Leu Thr	
810 815 820	
gga gcc tcc atc ttc ctg gca cct gtg ctc aag ttc att cca atg cct	2549
Gly Ala Ser Ile Phe Leu Ala Pro Val Leu Lys Phe Ile Pro Met Pro	
825 830 835	
gtg ctc tat ggc atc ttc ctg tat atg ggg gtg gca gcg ctc agc agc	2597
Val Leu Tyr Gly Ile Phe Leu Tyr Met Gly Val Ala Ala Leu Ser Ser	
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Gln Pro Asp Leu Leu Leu Arg His Val Pro Leu Thr Arg Val His	
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Leu Phe Thr Ala Ile Gln Leu Ala Cys Leu Gly Leu Leu Trp Ile Ile	
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Lys Ser Thr Pro Ala Ala Ile Ile Phe Pro Leu Met Leu Leu Gly Leu	
905 910 915	

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Gly Val Pro Lys Asp Pro Leu Leu Phe Ile Gln Leu Asn Glu Leu Leu 50 55 60	
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Glu Ser Leu Ser Pro Glu Leu Arg Gly Gln Leu Gln Ala Leu Leu Leu 165 170 175	
Gln Arg Pro Gln His Tyr Asn Gln Thr Thr Gly Thr Arg Pro Cys Trp 180 185 190	
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195 200 205

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Cys Thr Arg Gln Gly Gly His Pro Arg Gly Pro Gly Cys His Thr Val
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740 745 750

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805 810 815

Val Val Phe Ile Leu Thr Gly Ala Ser Ile Phe Leu Ala Pro Val Leu
820 825 830

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Pro Leu Thr Arg Val His Leu Phe Thr Ala Ile Gln Leu Ala Cys Leu
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Gly Ile Leu Cys Leu Pro Leu Phe Gln Leu Val Leu Ser Asp Leu Pro
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Cys Phe Gly Pro Leu Gly Ser Pro Pro Pro Tyr Glu Glu Ile Val Lys			
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Thr Thr			
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caaccccaaa	gagtaatatg	taaatgagtc	ataatcaata	ttgacttagc	aataatttta										5163		
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ttttata

5350

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Ser Ile Phe Leu Met Ala Val Ser Trp Asn Ile Thr Leu Ile Leu Leu
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Ile His Ile Asp Ser Ser Leu His Thr Pro Met Tyr Phe Phe Ile Asn
50 55 60

Gln Leu Ser Leu Ile Asp Leu Thr Tyr Ile Ser Val Thr Val Pro Lys
65 70 75 80

Met Leu Val Asn Gln Leu Ala Lys Asp Lys Thr Ile Ser Val Leu Gly
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Cys Gly Thr Gln Met Tyr Phe Tyr Leu Gln Leu Gly Gly Ala Glu Cys
100 105 110

Cys Leu Leu Ala Ala Met Ala Tyr Asp Arg Tyr Val Ala Ile Cys His
115 120 125

Pro Leu Arg Tyr Ser Val Leu Met Ser His Arg Val Cys Leu Leu Leu
130 135 140

Ala Ser Gly Cys Trp Phe Val Gly Ser Val Asp Gly Phe Met Leu Thr
145 150 155 160

Pro Ile Ala Met Ser Phe Pro Phe Cys Arg Ser His Glu Ile Gln His
165 170 175

Phe Phe Cys Glu Val Pro Ala Val Leu Lys Leu Ser Cys Ser Asp Thr
180 185 190

Ser Leu Tyr Lys Ile Phe Met Tyr Leu Cys Cys Val Ile Met Leu Leu
195 200 205

Ile Pro Val Thr Val Ile Ser Val Ser Tyr Tyr Tyr Ile Ile Leu Thr
210 215 220

Ile His Lys Met Asn Ser Val Glu Gly Arg Lys Lys Ala Phe Thr Thr
225 230 235 240

Cys Ser Ser His Ile Thr Val Val Ser Leu Phe Tyr Gly Ala Ala Ile
245 250 255

Tyr Asn Tyr Met Leu Pro Ser Ser Tyr Gln Thr Pro Glu Lys Asp Met
260 265 270

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Met Ser Ser Phe Phe Tyr Thr Ile Leu Thr Pro Val	Leu Asn Pro Ile
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ctg cag cca ctt aag aca tgc ccc gtg gca agg cag cta atc cga ggg
 Leu Gln Pro Leu Lys Thr Cys Pro Val Ala Arg Gln Leu Ile Arg Gly
 20 25 30

gtg ctg cg³⁵ gca cct gat gga g⁴⁰ cc⁴⁵ aag cca gga gag gac agg ggc cag Val Leu Arg Ala Pro Asp Gly Ala Lys Pro Gly Glu Asp Arg Gly Gln 144

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gcc cgc tgc aat gga cgt gta tgg gga gag aaa tca aaa caa cct att      192
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 50          55          60

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gag gct ttt aag ccc gtc tgc tac aaa ccc caa ttt atg tcc cac att 240
Glu Ala Phe Lys Pro Val Cys Tyr Lys Pro Gln Phe Met Ser His Ile
65          70           75          80

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att ccc ctt tac tcc atc cat gca tcc cag agt tcc agc caa tcc aag 288
Ile Pro Leu Tyr Ser Ile His Ala Ser Gln Ser Ser Ser Gln Ser Lys
          85           90           95

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ctg cct gca cat ctc cat ttg gac ccc tta ggc tgt gcc agt ctc agc 336
Leu Pro Ala His Leu His Leu Asp Pro Leu Gly Cys Ala Ser Leu Ser
          100           105           110

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ttc tcc tcc acc cag ccc tca cca cct tat tac cca ggg ttg gta cta 384
 Phe Ser Ser Thr Gln Pro Ser Pro Pro Tyr Tyr Pro Gly Leu Val Leu
 115 120 125

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gga tgc agc aag cag aat act gga ggt gca aaa tgt cag aag cca ctc 432
Gly Cys Ser Lys Gln Asn Thr Gly Gly Ala Lys Cys Gln Lys Pro Leu
 130      135      140

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act cgc agg ttt gag cac ttg gga aca gca aag aag ccc aag aaa tca    480
Thr Arg Arg Phe Glu His Leu Gly Thr Ala Lys Lys Pro Lys Lys Ser
145          150           155          160

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gtc tgg cca ctg cag agc ctg cct caa aga gat ttg aag ctg gtc aat      528
Val Trp Pro Leu Gln Ser Leu Pro Gln Arg Asp Leu Lys Leu Val Asn
          165           170           175

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gca agg agc cag gcc tgc tgg aat cca agg acc tgg ggt gca gca acc 576
Ala Arg Ser Gln Ala Cys Trp Asn Pro Arg Thr Trp Gly Ala Ala Thr
          180      185      190

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Pro Asp Thr Asp Pro Glu Glu Ala Asn Ser Gly Gln Gln Asn Ile Lys
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Glu Gln Gln Tyr Arg Val Ser Leu Gly Asn Asn Thr Gly Ser Pro Leu
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aga acc acc agg gaa gca tgg aag gag gcc agc cgc tgg gat ctg cca Arg Thr Thr Arg Glu Ala Trp Lys Glu Ala Ser Arg Trp Asp Leu Pro 245 250 255	768
gct ctg ggc ccc agc ggc cac cct ctg cag ctc aaa gtc acc ttt gct Ala Leu Gly Pro Ser Gly His Pro Leu Gln Leu Lys Val Thr Phe Ala 260 265 270	816
cct ctc ctc tcc tcg gct ggc cag cca gaa cca gcc cag aac tcc ctc Pro Leu Leu Ser Ser Ala Gly Gln Pro Glu Pro Ala Gln Asn Ser Leu 275 280 285	864
ccc tcc gct cag cag gac cca gga act ggt ccc tac tgg gca att att Pro Ser Ala Gln Asp Pro Gly Thr Gly Pro Tyr Trp Ala Ile Ile 290 295 300	912
aat cag att ctt gac att cct cag ccc cag gtt ggc tgg aga agc atg Asn Gln Ile Leu Asp Ile Pro Gln Pro Gln Val Gly Trp Arg Ser Met 305 310 315 320	960
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acc ggc aag gtg gtg ctg tca gcc gct gcc ctg ctc ctg gtg act gtg Thr Gly Lys Val Val Leu Ser Ala Ala Leu Leu Leu Val Thr Val 340 345 350	1056
gcc tac agg ctg tac aag tcg agg cct gcc cca gcc cag cgg tgg ggt Ala Tyr Arg Leu Tyr Lys Ser Arg Pro Ala Pro Ala Gln Arg Trp Gly 355 360 365	1104
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cct gct gta cag gag gct tct cct ggg gtg ctc ctg agg ggg cca aga Pro Ala Val Gln Glu Ala Ser Pro Gly Val Leu Leu Arg Gly Pro Arg 385 390 395 400	1200
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aga aca gct gtt ggc agt aac cct gac cct ccc cat ttc ccc cgc ttg Arg Thr Ala Val Gly Ser Asn Pro Asp Pro Pro His Phe Pro Arg Leu 465 470 475 480	1440
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cgt gag cat cca gga ctg ggg caa cta gaa cct ccc cac tgt cac tac Arg Glu His Pro Gly Leu Gly Gln Leu Glu Pro Pro His Cys His Tyr 515 520 525	1584
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16U 200 PCT FINAL.ST25

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tcc tcc tat acc ttc tca tcc ata gcc cgc gtc cga atg gag gag cat Ser Ser Tyr Phe Ser Ser Ile Ala Arg Val Arg Met Glu Glu His 580 585 590	1776
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tgg ccc tcc acc cga ggc ttc agc cgg aag gag agc ctt ctg cag ata Trp Pro Ser Thr Arg Gly Phe Ser Arg Lys Glu Ser Leu Leu Gln Ile 675 680 685	2064
gcg gag aac cca gag ctg cag ctg cag cca gat ggc ttc cgg ctc ccc Ala Glu Asn Pro Glu Leu Gln Leu Gln Pro Asp Gly Phe Arg Leu Pro 690 695 700	2112
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gac gtg tgc ccc aag gaa gac tcc ggc ggc ctc tgt tgc tat gac gat Asp Val Cys Pro Lys Glu Asp Ser Gly Gly Leu Cys Cys Tyr Asp Asp 820 825 830	2496
gag cag gat gtc tgg cgc ccg ctg gct cgc atg ccc ccc gag gcc gtg Glu Gln Asp Val Trp Arg Pro Leu Ala Arg Met Pro Pro Glu Ala Val 835 840 845	2544
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865	870	875	880	
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885	890	895		
gcc cgg ccg cac	tgc cgg ctg	gtg gcc ctg gac	ggg cac ctg tat gcc Ala Arg Pro His Cys Arg Leu Val Ala Leu Asp Gly His Leu Tyr Ala	2736
900	905	910		
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915	920	925		
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930	935	940		
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965	970	975		
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980	985	990		
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995	1000	1005		
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1010	1015	1020		
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1040	1045	1050		
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1055	1060	1065		
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1085	1090	1095		
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1100	1105	1110		
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1115	1120	1125		
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1130	1135	1140		
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Ala Arg Cys Asn Gly Arg Val Cys Gly Glu Lys Ser Lys Gln Pro Ile
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Glu Ala Phe Lys Pro Val Cys Tyr Lys Pro Gln Phe Met Ser His Ile
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Ile Pro Leu Tyr Ser Ile His Ala Ser Gln Ser Ser Ser Gln Ser Lys
85 90 95

Leu Pro Ala His Leu His Leu Asp Pro Leu Gly Cys Ala Ser Leu Ser
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Phe Ser Ser Thr Gln Pro Ser Pro Pro Tyr Tyr Pro Gly Leu Val Leu
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130 135 140

Thr Arg Arg Phe Glu His Leu Gly Thr Ala Lys Lys Pro Lys Lys Ser
145 150 155 160

Val Trp Pro Leu Gln Ser Leu Pro Gln Arg Asp Leu Lys Leu Val Asn
165 170 175

Ala Arg Ser Gln Ala Cys Trp Asn Pro Arg Thr Trp Gly Ala Ala Thr
180 185 190

Pro Asp Thr Asp Pro Glu Glu Ala Asn Ser Gly Gln Gln Asn Ile Lys
195 200 205

Glu Gln Gln Tyr Arg Val Ser Leu Gly Asn Asn Thr Gly Ser Pro Leu
210 215 220

Cys Ser Thr Glu Val Asn Phe Gly Ser Arg Gln Gln Gly Lys Leu Asn
225 230 235 240

Arg Thr Thr Arg Glu Ala Trp Lys Glu Ala Ser Arg Trp Asp Leu Pro
245 250 255

Ala Leu Gly Pro Ser Gly His Pro Leu Gln Leu Lys Val Thr Phe Ala
260 265 270

16U 200 PCT FINAL.ST25
Pro Leu Leu Ser Ser Ala Gly Gln Pro Glu Pro Ala Gln Asn Ser Leu
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Pro Ser Ala Gln Gln Asp Pro Gly Thr Gly Pro Tyr Trp Ala Ile Ile
290 295 300

Asn Gln Ile Leu Asp Ile Pro Gln Pro Gln Val Gly Trp Arg Ser Met
305 310 315 320

Phe Pro Arg Gly Ala Glu Ala Gln Asp Trp His Leu Asp Met Gln Leu
325 330 335

Thr Gly Lys Val Val Leu Ser Ala Ala Leu Leu Leu Val Thr Val
340 345 350

Ala Tyr Arg Leu Tyr Lys Ser Arg Pro Ala Pro Ala Gln Arg Trp Gly
355 360 365

Gly Asn Gly Gln Ala Glu Ala Lys Glu Glu Ala Glu Gly Ser Gly Gln
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Pro Ala Val Gln Glu Ala Ser Pro Gly Val Leu Leu Arg Gly Pro Arg
385 390 395 400

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Glu Asn Pro Arg Gly Pro Tyr Val Leu Val Thr Gly Ala Thr Ser Thr
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Asp Arg Lys Pro Gln Arg Lys Gly Ser Gly Glu Glu Arg Gly Gln
435 440 445

Gly Ser Asp Ser Glu Gln Val Pro Pro Cys Cys Pro Ser Gln Glu Thr
450 455 460

Arg Thr Ala Val Gly Ser Asn Pro Asp Pro Pro His Phe Pro Arg Leu
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485 490 495

Gly Ser Cys Ala Gly Gly Glu Pro Ser Pro Trp Gln Asp Ser Lys Pro
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Arg Glu His Pro Gly Leu Gly Gln Leu Glu Pro Pro His Cys His Tyr
515 520 525

Val Ala Pro Leu Gln Gly Ser Ser Asp Met Asn Gln Ser Trp Val Phe
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Thr Arg Val Ile Gly Val Ser Arg Glu Glu Ala Gly Ala Leu Glu Ala
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Ala Ser Asp Val Asp Leu Thr Leu His Gln Gln Glu Gly Ala Pro Asn
565 570 575

Ser Ser Tyr Thr Phe Ser Ser Ile Ala Arg Val Arg Met Glu Glu His
580 585 590

16U 200 PCT FINAL.ST25

Phe Ile Gln Lys Ala Glu Gly Val Glu Pro Arg Leu Lys Gly Lys Val
595 600 605

Tyr Asp Tyr Tyr Val Glu Ser Thr Ser Gln Ala Ile Phe Gln Gly Arg
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625 630 635 640

Pro Pro Gly Ser Leu Gly Thr Gly Ala Ala Ser Gly Gly Gln Ala Gly
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Asp Thr Lys Gly Ala Ala Glu Arg Ala Ala Ser Pro Gln Thr Gly Pro
660 665 670

Trp Pro Ser Thr Arg Gly Phe Ser Arg Lys Glu Ser Leu Leu Gln Ile
675 680 685

Ala Glu Asn Pro Glu Leu Gln Leu Gln Pro Asp Gly Phe Arg Leu Pro
690 695 700

Ala Pro Pro Cys Pro Asp Pro Gly Ala Leu Pro Gly Leu Gly Arg Ser
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Ser Arg Glu Pro His Val Gln Pro Val Ala Gly Thr Asn Phe Phe His
725 730 735

Ile Pro Leu Thr Pro Ala Ser Ala Pro Gln Val Arg Leu Asp Leu Gly
740 745 750

Asn Cys Tyr Glu Val Leu Thr Leu Ala Lys Arg Gln Asn Leu Glu Ala
755 760 765

Leu Lys Glu Ala Ala Tyr Lys Val Met Ser Glu Asn Tyr Leu Gln Val
770 775 780

Leu Arg Ser Pro Asp Ile Tyr Gly Cys Leu Ser Gly Ala Glu Arg Glu
785 790 795 800

Leu Ile Leu Gln Arg Arg Leu Arg Gly Arg Gln Tyr Leu Val Val Ala
805 810 815

Asp Val Cys Pro Lys Glu Asp Ser Gly Gly Leu Cys Cys Tyr Asp Asp
820 825 830

Glu Gln Asp Val Trp Arg Pro Leu Ala Arg Met Pro Pro Glu Ala Val
835 840 845

Ser Arg Gly Cys Ala Ile Cys Ser Leu Phe Asn Tyr Leu Phe Val Val
850 855 860

Ser Gly Cys Gln Gly Pro Gly His Gln Pro Ser Ser Arg Val Phe Cys
865 870 875 880

Tyr Asn Pro Leu Thr Gly Ile Trp Ser Glu Val Cys Pro Leu Asn Gln
885 890 895

Ala Arg Pro His Cys Arg Leu Val Ala Leu Asp Gly His Leu Tyr Ala
900 905 910

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Ile Gly Gly Glu Cys Leu Asn Ser Val Glu Arg Tyr Asp Pro Arg Leu
915 920 925

Asp Arg Trp Asp Phe Ala Pro Pro Leu Pro Ser Asp Thr Phe Ala Leu
930 935 940

Ala His Thr Ala Thr Val Arg Ala Lys Glu Ile Phe Val Thr Gly Gly
945 950 955 960

Ser Leu Arg Phe Leu Leu Phe Arg Phe Ser Ala Gln Glu Gln Arg Trp
965 970 975

Trp Ala Gly Pro Thr Gly Gly Ser Lys Asp Arg Thr Ala Glu Met Val
980 985 990

Ala Val Asn Gly Phe Leu Tyr Arg Phe Asp Leu Asn Arg Ser Leu Gly
995 1000 1005

Ile Ala Val Tyr Arg Cys Ser Ala Ser Thr Arg Leu Trp Tyr Glu
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Cys Ala Thr Tyr Arg Thr Pro Tyr Pro Asp Ala Phe Gln Cys Ala
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Val Val Asp Asn Leu Ile Tyr Cys Val Gly Arg Arg Ser Thr Leu
1040 1045 1050

Cys Phe Leu Ala Asp Ser Val Ser Pro Arg Ser Val Ala Val Phe
1055 1060 1065

Leu Ser Gly Ser Trp Gly Asn His His Gln Ser Ala Leu Gln Gly
1070 1075 1080

Asp Ser Ile Ile Cys Pro Pro Cys Ala Arg Trp Ser Gln Leu Asp
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Pro Val Ser Thr Glu Ala Ala Gly Ala Gln Ala Val Gly Leu Val
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Gly Arg Ser Arg Thr Gly Thr Lys Asp Glu Lys Glu Val Gly Met
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Ala Thr Gly
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 Phe Leu Pro Lys Ala Glu Gly Pro Gly Ser Gln Leu Gln Lys Leu Leu
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 Pro Ser Phe Leu Val Arg Glu Gln Asp Trp Asp Gln His Leu Asp Lys
 20 25 30 35
 ctt cat atg ctg cag cag aag agg att cta gag tct cca ctg ctt cga 502
 Leu His Met Leu Gln Gln Lys Arg Ile Leu Glu Ser Pro Leu Leu Arg
 40 45 50
 gca tcc aag gaa aat gac ctg tct gtt ctt agg caa ctt cta ctg gac 550
 Ala Ser Lys Glu Asn Asp Leu Ser Val Leu Arg Gln Leu Leu Asp
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 His Ile Ala Ala Leu Tyr Asp Asn Leu Glu Ala Ala Leu Val Leu Met
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Glu Ile Val Arg Leu Leu Ile Glu His Gly Ala Asp Ile Arg Ala Gln
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Asp Ser Leu Gly Asn Thr Val Leu His Ile Leu Ile Leu Gln Pro Asn
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370 375 380

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695

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gtgatgtctc gagaatgagt gcggttt	27
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gcagatgacc cgacctgact gtttttc	27
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<400> 150	
tggctgtgca gctagctcag gtaccag	27
<210> 151	
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<212> DNA
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<400> 151
gccagagagt ttaaatgaag ccctactttg gggcaggagc gggagggaaac 50

<210> 152
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Met Gly Val Lys Asn His Ser Thr Val Thr Glu Phe Leu Leu Ser Gly
1 5 10 15

tta act gaa caa gca gag ctt cag ctg ccc ctc ttc tgc ctc ttc tta 96
Leu Thr Glu Gln Ala Glu Leu Gln Leu Pro Leu Phe Cys Leu Phe Leu
20 25 30

gga att tac aca gtt act gtg gtg gga aac ctc agc atg atc tca att 144
Gly Ile Tyr Thr Val Val Gly Asn Leu Ser Met Ile Ser Ile
35 40 45

att agg ctg aat cgt caa ctt cat acc ccc atg tac tat ttc ctg agt 192
Ile Arg Leu Asn Arg Gln Leu His Thr Pro Met Tyr Tyr Phe Leu Ser
50 55 60

agt ttg tct ttt tta gat ttc tgc tat tct tct gtc att acc cct aaa 240
Ser Leu Ser Phe Leu Asp Phe Cys Tyr Ser Ser Val Ile Thr Pro Lys
65 70 75 80

atg cta tca ggg ttt tta tgc aga gat aga tcc atc tcc tat tct gga 288
Met Leu Ser Gly Phe Leu Cys Arg Asp Arg Ser Ile Ser Tyr Ser Gly
85 90 95

tgc atg att cag ctg ttt ttc tgt gtt tgt gtt att tct gaa tgc 336
Cys Met Ile Gln Leu Phe Phe Cys Val Cys Val Ile Ser Glu Cys
100 105 110

tac atg ctg gca gcc atg gcc tgc gat cgc tac gtg gcc atc tgc agc 384
Tyr Met Leu Ala Ala Met Ala Cys Asp Arg Tyr Val Ala Ile Cys Ser
115 120 125

cca ctg ctc tac agg gtc atc atg tcc cct agg gtc tgt tct ctg ctg 432
Pro Leu Leu Tyr Arg Val Ile Met Ser Pro Arg Val Cys Ser Leu Leu
130 135 140

gtg gct gtc ttc tca gta ggt ttc act gat gct gtg atc cat gga 480
Val Ala Ala Val Phe Ser Val Gly Phe Thr Asp Ala Val Ile His Gly
145 150 155 160

ggt tgt ata ctc agg ttg tct ttc tgt gga tca aac atc att aaa cat 528
Gly Cys Ile Leu Arg Leu Ser Phe Cys Gly Ser Asn Ile Ile Lys His
165 170 175

tat ttc tgt gac att gtc cct ctt att aaa ctc tcc tgc tcc agc act 576
Tyr Phe Cys Asp Ile Val Pro Leu Ile Lys Leu Ser Cys Ser Ser Thr
180 185 190

tat att gat gag ctt ttg att ttt gtc att ggt gga ttt aac atg gtg 624
Tyr Ile Asp Glu Leu Leu Ile Phe Val Ile Gly Gly Phe Asn Met Val
195 200 205

gcc aca agc cta aca atc att att tca tat gct ttt atc ctc acc agc 672
Ala Thr Ser Leu Thr Ile Ile Ser Tyr Ala Phe Ile Leu Thr Ser
210 215 220

atc ctg cgc atc cac tct aaa aag ggc agg tgc aaa ggc ttt agc acc 720
Ile Leu Arg Ile His Ser Lys Lys Gly Arg Cys Lys Ala Phe Ser Thr
225 230 235 240

tgt agc tcc cac ctg aca gct gtt atg ttt tat ggg tct ctg atg 768

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Cys Ser Ser His Leu Thr Ala Val Leu Met	Phe Tyr Gly Ser Leu Met		
245	250	255	
tcc atg tat ctc aaa cct gct tct agc agt tca ctc acc cag gag aaa			816
Ser Met Tyr Leu Lys Pro Ala Ser Ser Ser	Leu Thr Gln Glu Lys		
260	265	270	
gta tcc tca gta ttt tat acc act gtg att ctc atg ttg aat ccc ttg			864
Val Ser Ser Val Phe Tyr Thr Val Ile Leu Met	Leu Asn Pro Leu		
275	280	285	
ata tat agt ctg agg aac aat gaa gta aga aat gct ctg atg aaa ctt			912
Ile Tyr Ser Leu Arg Asn Asn Glu Val Arg Asn Ala Leu Met Lys Leu			
290	295	300	
tta aga aga aaa ata tct tta tct cca gga taa			945
Leu Arg Arg Lys Ile Ser Leu Ser Pro Gly			
305	310		
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<211> 314			
<212> PRT			
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1	5	10	15
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20	25	30	
Gly Ile Tyr Thr Val Val Gly Asn Leu Ser Met Ile Ser Ile			
35	40	45	
Ile Arg Leu Asn Arg Gln Leu His Thr Pro Met Tyr Tyr Phe Leu Ser			
50	55	60	
Ser Leu Ser Phe Leu Asp Phe Cys Tyr Ser Ser Val Ile Thr Pro Lys			
65	70	75	80
Met Leu Ser Gly Phe Leu Cys Arg Asp Arg Ser Ile Ser Tyr Ser Gly			
85	90	95	
Cys Met Ile Gln Leu Phe Phe Cys Val Cys Val Ile Ser Glu Cys			
100	105	110	
Tyr Met Leu Ala Ala Met Ala Cys Asp Arg Tyr Val Ala Ile Cys Ser			
115	120	125	
Pro Leu Leu Tyr Arg Val Ile Met Ser Pro Arg Val Cys Ser Leu Leu			
130	135	140	
Val Ala Ala Val Phe Ser Val Gly Phe Thr Asp Ala Val Ile His Gly			
145	150	155	160
Gly Cys Ile Leu Arg Leu Ser Phe Cys Gly Ser Asn Ile Ile Lys His			
165	170	175	
Tyr Phe Cys Asp Ile Val Pro Leu Ile Lys Leu Ser Cys Ser Ser Thr			
180	185	190	
Tyr Ile Asp Glu Leu Leu Ile Phe Val Ile Gly Gly Phe Asn Met Val			
195	200	205	

16U 200 PCT FINAL.ST25
Ala Thr Ser Leu Thr Ile Ile Ser Tyr Ala Phe Ile Leu Thr Ser
210 215 220

Ile Leu Arg Ile His Ser Lys Lys Gly Arg Cys Lys Ala Phe Ser Thr
225 230 235 240

Cys Ser Ser His Leu Thr Ala Val Leu Met Phe Tyr Gly Ser Leu Met
245 250 255

Ser Met Tyr Leu Lys Pro Ala Ser Ser Ser Leu Thr Gln Glu Lys
260 265 270

Val Ser Ser Val Phe Tyr Thr Thr Val Ile Leu Met Leu Asn Pro Leu
275 280 285

Ile Tyr Ser Leu Arg Asn Asn Glu Val Arg Asn Ala Leu Met Lys Leu
290 295 300

Leu Arg Arg Lys Ile Ser Leu Ser Pro Gly
305 310

<210> 154
<211> 34
<212> DNA
<213> Homo sapiens

<400> 154
ctgtgatcca tggaggttgt atactcaggt tgtc 34

<210> 155
<211> 36
<212> DNA
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<400> 155
tcatcagacg attttttact tcattgttcc tcagac 36

<210> 156
<211> 50
<212> DNA
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<400> 156
caggagaatt aaatataaga gtggtcagtg tggtaac actcaggaca 50

<210> 157
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<212> DNA
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<400> 157
aaaacatgct taaaaaacc catgatatta aagacaaaaa actgagcata 50

<210> 158
<211> 50
<212> DNA
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<400> 158
atgaacagct tattaaatag ccaggttagct gggcagaatg agaaaatgca 50

<210> 159
<211> 50
<212> DNA
<213> Homo sapiens

<400> 159

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gcccaacact aaataaaggg tcagcttct cagagataag gccatgattg	50
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tgctataaaa tgaaaaaa aagtgtgaag ttggcctatc accaagtaag	50
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<211> 50	
<212> DNA	
<213> Homo sapiens	
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taaatattgt atttatatacg tccttcagga ggactgaggc atccctccagt	50
<210> 162	
<211> 957	
<212> DNA	
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<400> 162	
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Met Asn Pro Ala Asn His Ser Gln Val Ala Gly Phe Val Leu Leu Gly	
1 5 10 15	
ctc tct cag gtt tgg gag ctt cgg ttt gtt ttc ttc act gtt ttc tct	96
Leu Ser Gln Val Trp Glu Leu Arg Phe Val Phe Phe Thr Val Phe Ser	
20 25 30	
gct gtg tat ttt atg act gta gtg gga aac ctt ctt att gtg gtc ata	144
Ala Val Tyr Phe Met Thr Val Val Gly Asn Leu Leu Ile Val Val Ile	
35 40 45	
gtg acc tcc gac cca cac ctg cac aca acc atg tat ttt ctc ttg ggc	192
Val Thr Ser Asp Pro His Leu His Thr Thr Met Tyr Phe Leu Leu Gly	
50 55 60	
aat ctt tct ttc ctg gac ttt tgc tac tct tcc atc aca gca cct agg	240
Asn Leu Ser Phe Leu Asp Phe Cys Tyr Ser Ser Ile Thr Ala Pro Arg	
65 70 75 80	
atg ctg gtt gac ttg ctc tca ggc aac cct acc att tcc ttt ggt gga	288
Met Leu Val Asp Leu Ser Gly Asn Pro Thr Ile Ser Phe Gly Gly	
85 90 95	
tgc ctg actcaa ctc ttc ttc cac ttc att gga ggc atc aag atc	336
Cys Leu Thr Gln Leu Phe Phe His Phe Ile Gly Gly Ile Lys Ile	
100 105 110	
ttc ctg ctg act gtc atg gcg tat gac cgc tac att gcc att tcc cag	384
Phe Leu Leu Thr Val Met Ala Tyr Asp Arg Tyr Ile Ala Ile Ser Gln	
115 120 125	
ccc ctg cac tac acg ctc att atg aat cag act gtc tgt gca ctc ctt	432
Pro Leu His Tyr Thr Leu Ile Met Asn Gln Thr Val Cys Ala Leu Leu	
130 135 140	
atg gca gcc tcc tgg gtg ggg ggc ttc atc cac tcc ata gta cag att	480
Met Ala Ala Ser Trp Val Gly Gly Phe Ile His Ser Ile Val Gln Ile	
145 150 155 160	
gca ttg act atc cag ctg cca ttc tgt ggg cct gac aag ctg gac aac	528
Ala Leu Thr Ile Gln Leu Pro Phe Cys Gly Pro Asp Lys Leu Asp Asn	
165 170 175	
ttt tat tgt gat gtg cct cag ctg atc aaa ttg gcc tgc aca gat acc	576
Phe Tyr Cys Asp Val Pro Gln Leu Ile Lys Leu Ala Cys Thr Asp Thr	
180 185 190	

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ttt gtc tta gag ctt tta atg gtg tct aac aat ggc ctg gtg acc ctg Phe Val Leu Glu Leu Leu Met Val Ser Asn Asn Gly Leu Val Thr Leu 195 200 205	624
atg tgt ttt ctg gtg ctt ctg gga tcg tac aca gca ctg cta gtc atg Met Cys Phe Leu Val Leu Gly Ser Tyr Thr Ala Leu Leu Val Met 210 215 220	672
ctc cga agc cac tca cgg gag ggc cgc agc aag gcc ctg tct acc tgt Leu Arg Ser His Ser Arg Glu Gly Arg Ser Lys Ala Leu Ser Thr Cys 225 230 235 240	720
gcc tct cac att gct gtg acc tta atc ttt gtg cct tgc atc tac Ala Ser His Ile Ala Val Val Thr Leu Phe Val Pro Cys Ile Tyr 245 250 255	768
gtc tat aca agg cct ttt cgg aca ttc ccc atg gac aag gcc gtc tct Val Tyr Thr Arg Pro Phe Arg Thr Phe Pro Met Asp Lys Ala Val Ser 260 265 270	816
gtg cta tac aca att gtc acc ccc atg ctg aat cct gcc atc tat acc Val Leu Tyr Thr Ile Val Thr Pro Met Leu Asn Pro Ala Ile Tyr Thr 275 280 285	864
ctg aga aac aag gaa gtg atc atg gcc atg aag aag ctg tgg agg agg Leu Arg Asn Lys Glu Val Ile Met Ala Met Lys Lys Leu Trp Arg Arg 290 295 300	912
aaa aag gac cct att ggt ccc ctg gag cac aga ccc tta cat tag Lys Lys Asp Pro Ile Gly Pro Leu Glu His Arg Pro Leu His 305 310 315	957

<210> 163
<211> 318
<212> PRT
<213> Homo sapiens

<400> 163

Met Asn Pro Ala Asn His Ser Gln Val Ala Gly Phe Val Leu Leu Gly
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Leu Ser Gln Val Trp Glu Leu Arg Phe Val Phe Phe Thr Val Phe Ser
20 25 30

Ala Val Tyr Phe Met Thr Val Val Gly Asn Leu Leu Ile Val Val Ile
35 40 45

Val Thr Ser Asp Pro His Leu His Thr Thr Met Tyr Phe Leu Leu Gly
50 55 60

Asn Leu Ser Phe Leu Asp Phe Cys Tyr Ser Ser Ile Thr Ala Pro Arg
65 70 75 80

Met Leu Val Asp Leu Leu Ser Gly Asn Pro Thr Ile Ser Phe Gly Gly
85 90 95

Cys Leu Thr Gln Leu Phe Phe His Phe Ile Gly Gly Ile Lys Ile
100 105 110

Phe Leu Leu Thr Val Met Ala Tyr Asp Arg Tyr Ile Ala Ile Ser Gln
115 120 125

Pro Leu His Tyr Thr Leu Ile Met Asn Gln Thr Val Cys Ala Leu Leu
130 135 140

Met Ala Ala Ser Trp Val Gly Gly Phe Ile His Ser Ile Val Gln Ile
145 150 155 160

16U 200 PCT FINAL.ST25

Ala Leu Thr Ile Gln Leu Pro Phe Cys Gly Pro Asp Lys Leu Asp Asn
165 170 175

Phe Tyr Cys Asp Val Pro Gln Leu Ile Lys Leu Ala Cys Thr Asp Thr
180 185 190

Phe Val Leu Glu Leu Leu Met Val Ser Asn Asn Gly Leu Val Thr Leu
195 200 205

Met Cys Phe Leu Val Leu Leu Gly Ser Tyr Thr Ala Leu Leu Val Met
210 215 220

Leu Arg Ser His Ser Arg Glu Gly Arg Ser Lys Ala Leu Ser Thr Cys
225 230 235 240

Ala Ser His Ile Ala Val Val Thr Leu Ile Phe Val Pro Cys Ile Tyr
245 250 255

Val Tyr Thr Arg Pro Phe Arg Thr Phe Pro Met Asp Lys Ala Val Ser
260 265 270

Val Leu Tyr Thr Ile Val Thr Pro Met Leu Asn Pro Ala Ile Tyr Thr
275 280 285

Leu Arg Asn Lys Glu Val Ile Met Ala Met Lys Lys Leu Trp Arg Arg
290 295 300

Lys Lys Asp Pro Ile Gly Pro Leu Glu His Arg Pro Leu His
305 310 315

<210> 164
<211> 26
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<213> Homo sapiens

<400> 164
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<210> 165
<211> 29
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<400> 165
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<210> 166
<211> 50
<212> DNA
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<400> 166
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<210> 167
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<212> DNA
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16U 200 PCT FINAL.ST25

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ttc ccc agt agc cac ctc ata cag ttc ctg gtg ttc ctg ggg tta atg Phe Pro Ser Ser His Leu Ile Gln Phe Leu Val Phe Leu Gly Leu Met 20 25 30	96
gtg acc tac att gta aca gcc aca ggc aag ctg cta att att gtg ctc Val Thr Tyr Ile Val Thr Ala Thr Gly Lys Leu Ile Ile Val Leu 35 40 45	144
agc tgg ata gac caa cgc ctg cac ata cag atg tac ttc ttc ctg cgg Ser Trp Ile Asp Gln Arg Leu His Ile Gln Met Tyr Phe Phe Leu Arg 50 55 60	192
aat ttc tcc ttc ctg gag ctg ttg ctg gta act gtt gtg gtt ccc aag Asn Phe Ser Phe Leu Leu Leu Val Thr Val Val Val Pro Lys 65 70 75 80	240
atg ctt gtc gtc atc ctc acg ggg gat cac acc atc tca ttt gtc agc Met Leu Val Val Ile Leu Thr Gly Asp His Thr Ile Ser Phe Val Ser 85 90 95	288
tgc atc atc cag tcc tac ctc tac ttc ttt cta ggc acc act gac ttc Cys Ile Ile Gln Ser Tyr Leu Tyr Phe Phe Leu Gly Thr Thr Asp Phe 100 105 110	336
ttc ctc ttg gcc gtc atg tct ctg gat cgt tac ctg gca atc tgc cga Phe Leu Leu Ala Val Met Ser Leu Asp Arg Tyr Leu Ala Ile Cys Arg 115 120 125	384
cca ctc cgc tat gag acc ctg atg aat ggc cat gtc tgt tcc caa cta Pro Leu Arg Tyr Glu Thr Leu Met Asn Gly His Val Cys Ser Gln Leu 130 135 140	432
gtg ctg gcc tcc tgg cta gct gga ttc ctc tgg gtc ctt tgc ccc act Val Leu Ala Ser Trp Leu Ala Gly Phe Leu Trp Val Leu Cys Pro Thr 145 150 155 160	480
gtc ctc atg gcc agc ctg cct ttc tgt ggc ccc aat ggt att gac cac Val Leu Met Ala Ser Leu Pro Phe Cys Gly Pro Asn Gly Ile Asp His 165 170 175	528
ttc ttt cgt gac agt tgg ccc ttg ctc agg ctt tct tgt ggg gac acc Phe Phe Arg Asp Ser Trp Pro Leu Leu Arg Leu Ser Cys Gly Asp Thr 180 185 190	576
cac ctg ctg aaa ctg gtg gct ttc atg ctc tct acg ttg gtg tta ctg His Leu Leu Lys Leu Val Ala Phe Met Leu Ser Thr Leu Val Leu Leu 195 200 205	624
ggc tca ctg gct ctg acc tca gtt tcc tat gcc tgc att ctt gcc act Gly Ser Leu Ala Leu Thr Ser Val Ser Tyr Ala Cys Ile Leu Ala Thr 210 215 220	672
gtt ctc agg gcc cct aca gct gct gag cga agg aaa ggc ttt tcc act Val Leu Arg Ala Pro Thr Ala Ala Glu Arg Arg Lys Ala Phe Ser Thr 225 230 235 240	720
tgc gcc tcg cat ctt aca gtg gtg gtc atc atc tat ggc agt tcc atc Cys Ala Ser His Leu Thr Val Val Ile Ile Tyr Gly Ser Ser Ile 245 250 255	768
ttt ctc tac att cgt atg tca gag gct cag tcc aaa ctg ctc aac aaa Phe Leu Tyr Ile Arg Met Ser Glu Ala Gln Ser Lys Leu Leu Asn Lys 260 265 270	816
ggc gcc tcc gtc ctg agc tgc atc atc aca ccc ctc ttg aac cca ttc Gly Ala Ser Val Leu Ser Cys Ile Ile Thr Pro Leu Leu Asn Pro Phe 275 280 285	864
atc ttc act ctc cgc aat gac aag gtg cag caa gca ctg aga gaa gcc Ile Phe Thr Leu Arg Asn Asp Lys Val Gln Gln Ala Leu Arg Glu Ala 290 295 300	912
ttg ggg tgg ccc agg ctc act gct gtg atg aaa ctg agg gtc aca agt Leu Gly Trp Pro Arg Leu Thr Ala Val Met Lys Leu Arg Val Thr Ser	960

305 310 16U 200 PCT FINAL.ST25
 315 320

caa agg aaa tga 972
 Gln Arg Lys

<210> 168
 <211> 323
 <212> PRT
 <213> Homo sapiens

<400> 168

Met Asn Pro Glu Asn Trp Thr Gln Val Thr Ser Phe Val Leu Leu Gly
 1 5 10 15

Phe Pro Ser Ser His Leu Ile Gln Phe Leu Val Phe Leu Gly Leu Met
 20 25 30

Val Thr Tyr Ile Val Thr Ala Thr Gly Lys Leu Leu Ile Ile Val Leu
 35 40 45

Ser Trp Ile Asp Gln Arg Leu His Ile Gln Met Tyr Phe Phe Leu Arg
 50 55 60

Asn Phe Ser Phe Leu Glu Leu Leu Leu Val Thr Val Val Val Pro Lys
 65 70 75 80

Met Leu Val Val Ile Leu Thr Gly Asp His Thr Ile Ser Phe Val Ser
 85 90 95

Cys Ile Ile Gln Ser Tyr Leu Tyr Phe Phe Leu Gly Thr Thr Asp Phe
 100 105 110

Phe Leu Leu Ala Val Met Ser Leu Asp Arg Tyr Leu Ala Ile Cys Arg
 115 120 125

Pro Leu Arg Tyr Glu Thr Leu Met Asn Gly His Val Cys Ser Gln Leu
 130 135 140

Val Leu Ala Ser Trp Leu Ala Gly Phe Leu Trp Val Leu Cys Pro Thr
 145 150 155 160

Val Leu Met Ala Ser Leu Pro Phe Cys Gly Pro Asn Gly Ile Asp His
 165 170 175

Phe Phe Arg Asp Ser Trp Pro Leu Leu Arg Leu Ser Cys Gly Asp Thr
 180 185 190

His Leu Leu Lys Leu Val Ala Phe Met Leu Ser Thr Leu Val Leu Leu
 195 200 205

Gly Ser Leu Ala Leu Thr Ser Val Ser Tyr Ala Cys Ile Leu Ala Thr
 210 215 220

Val Leu Arg Ala Pro Thr Ala Ala Glu Arg Arg Lys Ala Phe Ser Thr
 225 230 235 240

Cys Ala Ser His Leu Thr Val Val Ile Ile Tyr Gly Ser Ser Ile
 245 250 255

Phe Leu Tyr Ile Arg Met Ser Glu Ala Gln Ser Lys Leu Leu Asn Lys

16U 200 PCT FINAL ST25
260 265 270

Gly Ala Ser Val Leu Ser Cys Ile Ile Thr Pro Leu Leu Asn Pro Phe
275 280 285

Ile Phe Thr Leu Arg Asn Asp Lys Val Gln Gln Ala Leu Arg Glu Ala
290 295 300

Leu Gly Trp Pro Arg Leu Thr Ala Val Met Lys Leu Arg Val Thr Ser
305 310 315 320

Gln Arg Lys

<210> 169
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<400> 169
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25

<210> 170
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<212> DNA
<213> *Homo sapiens*

<400> 170
ctgagaacag tggcaagaat gcaggcatag

30

<210> 171
<211> 450
<212> DNA
<213> *Homo sapiens*

<220>
<221> CDS
<222> (1)..(450)
<223>

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<400> 171
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48

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ttc ctg gtg gtt tat gtg ctt act gtg ctg ggg aac ctc ctc atc ctg
Phe Leu Val Val Val Tyr Val Leu Thr Val Leu Gly Asn Leu Ile Leu
     20          25          30

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96

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ctg gtg atc agg gtg tac tct cac ctc cac acc ccc aag tac tac ttc
Leu Val Ile Arg Val Tyr Ser His Leu His Thr Pro Lys Tyr Tyr Phe
      35           40           45

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144

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  ctc acc aat ctg tcc ttc att gac ttg tgg ttc ttc act gtc atg gtg
Leu Thr Asn Leu Ser Phe Ile Asp Leu Trp Phe Phe Thr Val Met Val
      50          55          60

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192

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ccc aaa atg ccg agg acc ttg ttg tcc ctg tgt ggc aag gct gtg tcc
Pro Lys Met Pro Arg Thr Leu Leu Ser Leu Cys Gly Lys Ala Val Ser
65          70          75          80

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240

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ttc cac agt tgt atg acc caa ctc tat ttc ttc tac ttc ctg ggg agc
Phe His Ser Cys Met Thr Gln Leu Tyr Phe Phe Tyr Phe Leu Gly Ser
          85      90      95

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288

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acc gag tgt ttg ctc tac acg gtc atg tcc tat gat cgc tat aga gga
Thr Glu Cys Leu Leu Tyr Thr Val Met Ser Tyr Asp Arg Tyr Arg Gly
      100          105          110

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330

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aat act cag cac ttc cca ggt agt gaa aac act ccc cac gaa gtg agc
Asn Thr Gln His Phe Pro Gly Ser Glu Asn Thr Pro His Glu Val Ser
     115      120      125

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384

16U 200 PCT FINAL.ST25

caa atg cta gtg gcc cgg ggg gca cac ggg ctc cca ctc atc atc ctg
 Gln Met Leu Val Ala Arg Gly Ala His Gly Leu Pro Leu Ile Ile Leu
 130 135 140 432

gca gat ctg agt ggg taa
 Ala Asp Leu Ser Gly
 145 450

<210> 172
<211> 149
<212> PRT
<213> Homo sapiens

<400> 172

Met Asp Leu Pro His Val Pro Ala Leu Asp Ala Pro Leu Phe Gly Val
 1 5 10 15

Phe Leu Val Val Tyr Val Leu Thr Val Leu Gly Asn Leu Leu Ile Leu
 20 25 30

Leu Val Ile Arg Val Tyr Ser His Leu His Thr Pro Lys Tyr Tyr Phe
 35 40 45

Leu Thr Asn Leu Ser Phe Ile Asp Leu Trp Phe Phe Thr Val Met Val
 50 55 60

Pro Lys Met Pro Arg Thr Leu Leu Ser Leu Cys Gly Lys Ala Val Ser
 65 70 75 80

Phe His Ser Cys Met Thr Gln Leu Tyr Phe Phe Tyr Phe Leu Gly Ser
 85 90 95

Thr Glu Cys Leu Leu Tyr Thr Val Met Ser Tyr Asp Arg Tyr Arg Gly
 100 105 110

Asn Thr Gln His Phe Pro Gly Ser Glu Asn Thr Pro His Glu Val Ser
 115 120 125

Gln Met Leu Val Ala Arg Gly Ala His Gly Leu Pro Leu Ile Ile Leu
 130 135 140

Ala Asp Leu Ser Gly
 145

<210> 173
<211> 23
<212> DNA
<213> Homo sapiens

<400> 173
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<210> 174
<211> 27
<212> DNA
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<400> 174
acccactctag atctgccagg atgatga 27

<210> 175
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<212> DNA
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16U 200 PCT FINAL.ST25

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1 5 10 15		
cat gcc cca ggg ctg gac gcc ctc ctc ttt gga atc ttc ctg gtg gtt		96
His Ala Pro Gly Leu Asp Ala Leu Leu Phe Gly Ile Phe Leu Val Val		
20 25 30		
tac gtg ctc act gtg ctg ggg aac ctc ctc atc ctg ctg gtg atc agg		144
Tyr Val Leu Thr Val Leu Gly Asn Leu Leu Ile Leu Val Val Ile Arg		
35 40 45		
gtg gat tct cac ctc cac acc ccc atg tac tac ttc ctc acc aac ctg		192
Val Asp Ser His Leu His Thr Pro Met Tyr Tyr Phe Leu Thr Asn Leu		
50 55 60		
tcc ttc att gag atg tgg ttc tcc act gtc acg gtg ccc aaa atg ctg		240
Ser Phe Ile Asp Met Trp Phe Ser Thr Val Thr Val Pro Lys Met Leu		
65 70 75 80		
atg acc ttg gtg tcc cca agc ggc agg gct atc tcc ttc cac agc tgc		288
Met Thr Leu Val Ser Pro Ser Gly Arg Ala Ile Ser Phe His Ser Cys		
85 90 95		
gtg gct cag ctc tat ttt ttc cac ttc ctg ggg agc acc gag tgt ttc		336
Val Ala Gln Leu Tyr Phe His Phe Leu Gly Ser Thr Glu Cys Phe		
100 105 110		
ctc tac aca gtc atg tcc tat gat cgc tac ttg gcc atc agt tac ccg		384
Leu Tyr Thr Val Met Ser Tyr Asp Arg Tyr Leu Ala Ile Ser Tyr Pro		
115 120 125		
ctc agg tac acc agc atg atg agt ggg agc agg tgt gcc ctc ctg gcc		432
Leu Arg Tyr Thr Ser Met Met Ser Gly Ser Arg Cys Ala Leu Leu Ala		
130 135 140		
acc ggc act tgg ctc agt ggc tct ctg cac tct gct gtc cag acc ata		480
Thr Gly Thr Trp Leu Ser Gly Ser Leu His Ser Ala Val Gln Thr Ile		
145 150 155 160		
ttg act ttc cat ttg ccc tac tgt gga ccc aac cag atc cag cac tac		528
Leu Thr Phe His Leu Pro Tyr Cys Gly Pro Asn Gln Ile Gln His Tyr		
165 170 175		
ttc tgt gac gca ccg ccc atc ctg aaa ctg gcc tgt gca gac acc tca		576
Phe Cys Asp Ala Pro Pro Ile Leu Lys Leu Ala Cys Ala Asp Thr Ser		
180 185 190		
gcc aac gtg atg gtc atc ttt gtg gac att ggg ata gtg gcc tca ggc		624
Ala Asn Val Met Val Ile Phe Val Asp Ile Gly Ile Val Ala Ser Gly		
195 200 205		
tgc ttt gtc ctg ata gtg ctg tcc tat gtg tcc atc gtc tgt tcc atc		672
Cys Phe Val Leu Ile Val Leu Ser Tyr Val Ser Ile Val Cys Ser Ile		
210 215 220		
ctg cgg atc cgc acc tca gat ggg agg cgc aga gcc ttt cag acc tgt		720
Leu Arg Ile Arg Thr Ser Asp Gly Arg Arg Ala Phe Gln Thr Cys		
225 230 235 240		
gcc tcc cac tgt att gtg gtc ctt tgc ttc ttt gtt ccc tgt gtt gtc		768
Ala Ser His Cys Ile Val Val Leu Cys Phe Phe Val Pro Cys Val Val		
245 250 255		
att tat ctg agg cca ggc tcc atg gat gcc atg gat gga gtt gtg gcc		816
Ile Tyr Leu Arg Pro Gly Ser Met Asp Ala Met Asp Gly Val Val Ala		
260 265 270		
att ttc tac act gtg ctg acg ccc ctt ctc aac cct gtt gtg tac acc		864
Ile Phe Tyr Thr Val Leu Thr Pro Leu Leu Asn Pro Val Val Tyr Thr		
275 280 285		

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ctg aga aac aag gag gtg aag aaa gct gtg ttg aaa ctt aga gac aaa		912	
Leu Arg Asn Lys Glu Val Lys Lys Ala Val Leu Lys Leu Arg Asp Lys			
290	295	300	
gta gca cat cct cag agg aaa taa		936	
Val Ala His Pro Gln Arg Lys			
305	310		
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His Ala Pro Gly Leu Asp Ala Leu Leu Phe Gly Ile Phe Leu Val Val			
20	25	30	
Tyr Val Leu Thr Val Leu Gly Asn Leu Leu Ile Leu Leu Val Ile Arg			
35	40	45	
Val Asp Ser His Leu His Thr Pro Met Tyr Tyr Phe Leu Thr Asn Leu			
50	55	60	
Ser Phe Ile Asp Met Trp Phe Ser Thr Val Thr Val Pro Lys Met Leu			
65	70	75	80
Met Thr Leu Val Ser Pro Ser Gly Arg Ala Ile Ser Phe His Ser Cys			
85	90	95	
Val Ala Gln Leu Tyr Phe Phe His Phe Leu Gly Ser Thr Glu Cys Phe			
100	105	110	
Leu Tyr Thr Val Met Ser Tyr Asp Arg Tyr Leu Ala Ile Ser Tyr Pro			
115	120	125	
Leu Arg Tyr Thr Ser Met Met Ser Gly Ser Arg Cys Ala Leu Leu Ala			
130	135	140	
Thr Gly Thr Trp Leu Ser Gly Ser Leu His Ser Ala Val Gln Thr Ile			
145	150	155	160
Leu Thr Phe His Leu Pro Tyr Cys Gly Pro Asn Gln Ile Gln His Tyr			
165	170	175	
Phe Cys Asp Ala Pro Pro Ile Leu Lys Leu Ala Cys Ala Asp Thr Ser			
180	185	190	
Ala Asn Val Met Val Ile Phe Val Asp Ile Gly Ile Val Ala Ser Gly			
195	200	205	
Cys Phe Val Leu Ile Val Leu Ser Tyr Val Ser Ile Val Cys Ser Ile			
210	215	220	
Leu Arg Ile Arg Thr Ser Asp Gly Arg Arg Ala Phe Gln Thr Cys			
225	230	235	240
Ala Ser His Cys Ile Val Val Leu Cys Phe Phe Val Pro Cys Val Val			
245	250	255	

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Ile Tyr Leu Arg Pro Gly Ser Met Asp Ala Met Asp Gly Val Val Ala
 260 265 270

Ile Phe Tyr Thr Val Leu Thr Pro Leu Leu Asn Pro Val Val Tyr Thr
 275 280 285

Leu Arg Asn Lys Glu Val Lys Lys Ala Val Leu Lys Leu Arg Asp Lys
 290 295 300

Val Ala His Pro Gln Arg Lys
 305 310

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<211> 33
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cag ggc ttg ctc ttc tct gtc ttt ctc act atc tac ctg ctg acc gtg 96
Gln Gly Leu Leu Phe Ser Val Phe Leu Thr Ile Tyr Leu Leu Thr Val
20 25 30

gca ggc aat ttc ctc att gtg gtg ctg gtc tcc act gat gct gcc ctc 144
Ala Gly Asn Phe Leu Ile Val Val Leu Val Ser Thr Asp Ala Ala Leu
35 40 45

cag tcc cct atg tac ttc ttc ctg cgc acc ctc tcg gcc ttg gag att 192
Gln Ser Pro Met Tyr Phe Leu Arg Thr Leu Ser Ala Leu Glu Ile
50 55 60

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ggc tat acg tct gtc acg gtc ccc ctg cta ctt cac cac ctc ctt act Gly Tyr Thr Ser Val Thr Val Pro Leu Leu His His Leu Leu Thr 65 70 75 80	240
ggc cgg cgc cac atc tct cgc tct gga tgt gct ctc cag atg ttc ttc Gly Arg Arg His Ile Ser Arg Ser Gly Cys Ala Leu Gln Met Phe Phe 85 90 95	288
ttc ctc ttc ttt ggc gcc acg gag tgc tgc ctc ctg gca gcc atg gcc Phe Leu Phe Gly Ala Thr Glu Cys Cys Leu Leu Ala Ala Met Ala 100 105 110	336
tat gac cgc tat gca gcc atc tgt gaa ccc ctc cgc tac cca ctg ctg Tyr Asp Arg Tyr Ala Ala Ile Cys Glu Pro Leu Arg Tyr Pro Leu Leu 115 120 125	384
ctg agc cac cgg gtg tgt cta cag cta gct ggg tcg gcg tgg gcc tgt Leu Ser His Arg Val Cys Leu Gln Leu Ala Gly Ser Ala Trp Ala Cys 130 135 140	432
ggg gtg ctg gtg ggg ctg ggc cac acc cct ttc atc ttc tct ttg ccc Gly Val Leu Val Gly Leu Gly His Thr Pro Phe Ile Phe Ser Leu Pro 145 150 155 160	480
ttc tgc ggc ccc aat acc atc ccg cag ttc ttc tgt gag atc cag cct Phe Cys Gly Pro Asn Thr Ile Pro Gln Phe Phe Cys Glu Ile Gln Pro 165 170 175	528
gtc ctg cag ctg gta tgt gga gac acc tcg ctt aat gaa ctg cag att Val Leu Gln Leu Val Cys Gly Asp Thr Ser Leu Asn Glu Leu Gln Ile 180 185 190	576
atc ctg gca aca gcc ctc atc ctc tgc ccc ttt ggc ctc atc ctg Ile Leu Ala Thr Ala Leu Ile Leu Cys Pro Phe Gly Leu Ile Leu 195 200 205	624
ggc tcc tac ggg cgt atc ctc gtt acc atc ttc cgg atc cca tct gtt Gly Ser Tyr Gly Arg Ile Leu Val Thr Ile Phe Arg Ile Pro Ser Val 210 215 220	672
gcu ggc cgc aag gcc ttc tcc acc tgc tcc tcc cac ctg atc gtg Ala Gly Arg Arg Lys Ala Phe Ser Thr Cys Ser Ser His Leu Ile Val 225 230 235 240	720
gtc tcc ctc ttc tat ggc acc gca ctc ttt atc tat att cgc cct aag Val Ser Leu Phe Tyr Gly Thr Ala Leu Phe Ile Tyr Ile Arg Pro Lys 245 250 255	768
gcc agc tac gat ccg gcc act gac cct ctg gtg tcc ctc ttc tat gct Ala Ser Tyr Asp Pro Ala Thr Asp Pro Leu Val Ser Leu Phe Tyr Ala 260 265 270	816
gtg gtc acc ccc atc ctc aac ccc atc atc tac agc ctg cgg aac aca Val Val Thr Pro Ile Leu Asn Pro Ile Ile Tyr Ser Leu Arg Asn Thr 275 280 285	864
gag gtc aaa gct gcc cta aag aga acc atc cag aaa acg gtg cct atg Glu Val Lys Ala Ala Leu Lys Arg Thr Ile Gln Lys Thr Val Pro Met 290 295 300	912
gag att tga Glu Ile 305	921

<210> 182
<211> 306
<212> PRT
<213> Homo sapiens

<400> 182

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Gln Gly Leu Leu Phe Ser Val Phe Leu Thr Ile Tyr Leu Leu Thr Val
20 25 30

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Ala Gly Asn Phe Leu Ile Val Val Leu Val Ser Thr Asp Ala Ala Leu
35 40 45

Gln Ser Pro Met Tyr Phe Phe Leu Arg Thr Leu Ser Ala Leu Glu Ile
50 55 60

Gly Tyr Thr Ser Val Thr Val Pro Leu Leu Leu His His Leu Leu Thr
65 70 75 80

Gly Arg Arg His Ile Ser Arg Ser Gly Cys Ala Leu Gln Met Phe Phe
85 90 95

Phe Leu Phe Phe Gly Ala Thr Glu Cys Cys Leu Leu Ala Ala Met Ala
100 105 110

Tyr Asp Arg Tyr Ala Ala Ile Cys Glu Pro Leu Arg Tyr Pro Leu Leu
115 120 125

Leu Ser His Arg Val Cys Leu Gln Leu Ala Gly Ser Ala Trp Ala Cys
130 135 140

Gly Val Leu Val Gly Leu Gly His Thr Pro Phe Ile Phe Ser Leu Pro
145 150 155 160

Phe Cys Gly Pro Asn Thr Ile Pro Gln Phe Phe Cys Glu Ile Gln Pro
165 170 175

Val Leu Gln Leu Val Cys Gly Asp Thr Ser Leu Asn Glu Leu Gln Ile
180 185 190

Ile Leu Ala Thr Ala Leu Ile Leu Cys Pro Phe Gly Leu Ile Leu
195 200 205

Gly Ser Tyr Gly Arg Ile Leu Val Thr Ile Phe Arg Ile Pro Ser Val
210 215 220

Ala Gly Arg Arg Lys Ala Phe Ser Thr Cys Ser Ser His Leu Ile Val
225 230 235 240

Val Ser Leu Phe Tyr Gly Thr Ala Leu Phe Ile Tyr Ile Arg Pro Lys
245 250 255

Ala Ser Tyr Asp Pro Ala Thr Asp Pro Leu Val Ser Leu Phe Tyr Ala
260 265 270

Val Val Thr Pro Ile Leu Asn Pro Ile Ile Tyr Ser Leu Arg Asn Thr
275 280 285

Glu Val Lys Ala Ala Leu Lys Arg Thr Ile Gln Lys Thr Val Pro Met
290 295 300

Glu Ile
305

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16U 200 PCT FINAL.ST25

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ctt atc tat gtg acc tcc ctg ata gga aat att gga atg atc tta ctc Leu Ile Tyr Val Thr Ser Leu Ile Gly Asn Ile Gly Met Ile Leu Leu 35 40 45	144
atc aag acc gat tcc aga ctt caa aca ccc atg tac ttt ttt cca caa Ile Lys Thr Asp Ser Arg Leu Gln Thr Pro Met Tyr Phe Pro Gln 50 55 60	192
cat ttg gct ttt gtt gat atc tgt tat act tct gct atc act ccc aag His Leu Ala Phe Val Asp Ile Cys Tyr Thr Ser Ala Ile Thr Pro Lys 65 70 75 80	240
atg ctc caa agc ttc aca gaa aat aat ttg ata aca ttt cgg ggc Met Leu Gln Ser Phe Thr Glu Asn Asn Leu Ile Thr Phe Arg Gly 85 90 95	288
tgt gtg ata caa ttc tta gtt tat gca aca ttt gca acc agt gac tgt Cys Val Ile Gln Phe Leu Val Tyr Ala Thr Phe Ala Thr Ser Asp Cys 100 105 110	336
tac ctc cta gct att atg gca atg gat tgt tat gtt gcc atc tgt aag Tyr Leu Ala Ile Met Ala Met Asp Cys Tyr Val Ala Ile Cys Lys 115 120 125	384
ccc ctt cgc tat ccc atg atc atg tcc caa aca gtc tac atc caa ctc Pro Leu Arg Tyr Pro Met Ile Met Ser Gln Thr Val Tyr Ile Gln Leu 130 135 140	432
gta gct ggc tca tat att ata ggc tca ata aat gcc tct gta cat aca Val Ala Gly Ser Tyr Ile Ile Gly Ser Ile Asn Ala Ser Val His Thr 145 150 155 160	480
ggg ttt aca ttt tca ctg tcc ttc tgc aag tct aat aaa atc aat cac Gly Phe Thr Phe Ser Leu Ser Phe Cys Lys Ser Asn Lys Ile Asn His 165 170 175	528
ttt ttc tgt gat ggt ctc cca att ctt gcc ctt tca tgc tcc aac att Phe Phe Cys Asp Gly Leu Pro Ile Leu Ala Leu Ser Cys Ser Asn Ile 180 185 190	576
gac atc aac atc att cta gat gtt gtc ttt gtg gga ttt gac ttg atg Asp Ile Asn Ile Ile Leu Asp Val Val Phe Val Gly Phe Asp Leu Met 195 200 205	624
ttc act gag ttg gtc atc atc ttt tcc tac atc tac att atg gtc acc Phe Thr Glu Leu Val Ile Ile Phe Ser Tyr Ile Tyr Ile Met Val Thr 210 215 220	672

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atc ctg aag atg tct tct act gct ggg agg aaa aaa tcc ttc tcc aca
 Ile Leu Lys Met Ser Ser Thr Ala Gly Arg Lys Lys Ser Phe Ser Thr
 225 230 235 240

tgt gcc tcc cac ctg aca gca gta acc att ttc tat ggg aca ctc tct
 Cys Ala Ser His Leu Thr Ala Val Thr Ile Phe Tyr Gly Thr Leu Ser
 245 250 255

tac atg tac tta cag cct cag tct aat aat tct cag gag aat atg aaa
 Tyr Met Tyr Leu Gln Pro Gln Ser Asn Asn Ser Gln Glu Asn Met Lys
 260 265 270

gta gcc tct ata ttt tat ggc act gtt att ccc atg ttg aat cct tta
 Val Ala Ser Ile Phe Tyr Gly Thr Val Ile Pro Met Leu Asn Pro Leu
 275 280 285

atc tat agc ttg aga aat aag gaa gga aaa taa
 Ile Tyr Ser Leu Arg Asn Lys Glu Gly Lys
 290 295

<210> 186

<211> 298

<212> PRT

<213> Homo sapiens

<400> 186

Met Gly Arg Gly Asn Ser Thr Glu Val Thr Glu Phe His Leu Leu Gly
 1 5 10 15

Phe Gly Val Gln His Glu Phe Gln His Val Leu Phe Ile Val Leu Leu
 20 25 30

Leu Ile Tyr Val Thr Ser Leu Ile Gly Asn Ile Gly Met Ile Leu Leu
 35 40 45

Ile Lys Thr Asp Ser Arg Leu Gln Thr Pro Met Tyr Phe Phe Pro Gln
 50 55 60

His Leu Ala Phe Val Asp Ile Cys Tyr Thr Ser Ala Ile Thr Pro Lys
 65 70 75 80

Met Leu Gln Ser Phe Thr Glu Glu Asn Asn Leu Ile Thr Phe Arg Gly
 85 90 95

Cys Val Ile Gln Phe Leu Val Tyr Ala Thr Phe Ala Thr Ser Asp Cys
 100 105 110

Tyr Leu Leu Ala Ile Met Ala Met Asp Cys Tyr Val Ala Ile Cys Lys
 115 120 125

Pro Leu Arg Tyr Pro Met Ile Met Ser Gln Thr Val Tyr Ile Gln Leu
 130 135 140

Val Ala Gly Ser Tyr Ile Ile Gly Ser Ile Asn Ala Ser Val His Thr
 145 150 155 160

Gly Phe Thr Phe Ser Leu Ser Phe Cys Lys Ser Asn Lys Ile Asn His
 165 170 175

Phe Phe Cys Asp Gly Leu Pro Ile Leu Ala Leu Ser Cys Ser Asn Ile
 180 185 190

Asp Ile Asn Ile Ile Leu Asp Val Val Phe Val Gly Phe Asp Leu Met
 195 200 205

16U 200 PCT FINAL.ST25

Phe Thr Glu Leu Val Ile Ile Phe Ser Tyr Ile Tyr Ile Met Val Thr
 210 215 220

Ile Leu Lys Met Ser Ser Thr Ala Gly Arg Lys Lys Ser Phe Ser Thr
 225 230 235 240

Cys Ala Ser His Leu Thr Ala Val Thr Ile Phe Tyr Gly Thr Leu Ser
 245 250 255

Tyr Met Tyr Leu Gln Pro Gln Ser Asn Asn Ser Gln Glu Asn Met Lys
 260 265 270

Val Ala Ser Ile Phe Tyr Gly Thr Val Ile Pro Met Leu Asn Pro Leu
 275 280 285

Ile Tyr Ser Leu Arg Asn Lys Glu Gly Lys
 290 295

<210> 187

<211> 930

<212> DNA

<213> Homo sapiens

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<222> (1)..(930)

<223>

<400> 187

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 1 5 10 15

ttt ggt gcc cag cat gag ttt tgg tgt atc ctc ttc att gta ttc ctt 96
 Phe Gly Ala Gln His Glu Phe Trp Cys Ile Leu Phe Ile Val Phe Leu
 20 25 30

ctc atc tat gtg acc tcc ata atg ggt aat agt gga ata atc tta ctc 144
 Leu Ile Tyr Val Thr Ser Ile Met Gly Asn Ser Gly Ile Ile Leu Leu
 35 40 45

atc aac aca gat tcc aga ttt caa aca ctc acg tac ttt ttt cta caa 192
 Ile Asn Thr Asp Ser Arg Phe Gln Thr Leu Thr Tyr Phe Phe Leu Gln
 50 55 60

cat ttg gct ttt gtt gat atc tgt tac act tct gct atc act ccc aag 240
 His Leu Ala Phe Val Asp Ile Cys Tyr Thr Ser Ala Ile Thr Pro Lys
 65 70 75 80

atg ctc caa agc ttc aca gaa aag aat ttg atg tta ttt cag ggc 288
 Met Leu Gln Ser Phe Thr Glu Glu Lys Asn Leu Met Leu Phe Gln Gly
 85 90 95

tgt gtg ata caa ttc tta gtt tat gca aca ttt gca acc agt gac tgt 336
 Cys Val Ile Gln Phe Leu Val Tyr Ala Thr Phe Ala Thr Ser Asp Cys
 100 105 110

tat ctc ctg gct atg atg gca gtg gat cct tat gtt gcc atc tgt aag 384
 Tyr Leu Leu Ala Met Met Ala Val Asp Pro Tyr Val Ala Ile Cys Lys
 115 120 125

ccc ctt cac tat act gta atc atg tcc cga aca gtc tgc atc cgt ttg 432
 Pro Leu His Tyr Thr Val Ile Met Ser Arg Thr Val Cys Ile Arg Leu
 130 135 140

gta gct ggt tca tac atc atg ggc tca ata aat gcc tct gta caa aca 480
 Val Ala Gly Ser Tyr Ile Met Gly Ser Ile Asn Ala Ser Val Gln Thr
 145 150 155 160

ggg ttt aca tgt tca ctg tcc ttc tgc aag tcc aat agc atc aat cac 528
 Gly Phe Thr Cys Ser Leu Ser Phe Cys Lys Ser Asn Ser Ile Asn His

16U 200 PCT FINAL.ST25

165	170	175	
ttt ttc tgt gat gtt ccc cct att ctt gct ctt tca tgc tcc aat gtt Phe Phe Cys Asp Val Pro Pro Ile Leu Ala Leu Ser Cys Ser Asn Val 180 185 190			576
gac atc aac atc atg cta ctt gtt gtc ttt gtg gga tct aac ttg ata Asp Ile Asn Ile Met Leu Leu Val Val Phe Val Gly Ser Asn Leu Ile 195 200 205			624
ttc act ggg ttg gtc atc ttt tcc tac atc tac atc atg gcc acc Phe Thr Gly Leu Val Val Ile Phe Ser Tyr Ile Tyr Ile Met Ala Thr 210 215 220			672
atc ctg aaa atg tct tct agt gca gga agg aaa aaa tcc ttc tca aca Ile Leu Lys Met Ser Ser Ser Ala Gly Arg Lys Lys Ser Phe Ser Thr 225 230 235 240			720
tgt gct tcc cac ctg acc gca gtc acc att ttc tat ggg aca ctc tct Cys Ala Ser His Leu Thr Ala Val Thr Ile Phe Tyr Gly Thr Leu Ser 245 250 255			768
tac atg tat ttg cag tct cat tct aat aat tcc cag gaa aat atg aaa Tyr Met Tyr Leu Gln Ser His Ser Asn Asn Ser Gln Glu Asn Met Lys 260 265 270			816
gtg gcc ttt ata ttt tat ggc aca gtt att ccc atg tta aat cct tta Val Ala Phe Ile Phe Tyr Gly Thr Val Ile Pro Met Leu Asn Pro Leu 275 280 285			864
atc tat agc ttg aga aat aag gaa gta aaa gaa gct tta aaa gtg ata Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys Glu Ala Leu Lys Val Ile 290 295 300			912
ggg aaa aag tta ttt taa Gly Lys Lys Leu Phe 305			930

<210> 188
<211> 309
<212> PRT
<213> Homo sapiens

<400> 188

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Leu Ile Tyr Val Thr Ser Ile Met Gly Asn Ser Gly Ile Ile Leu Leu
35 40 45

Ile Asn Thr Asp Ser Arg Phe Gln Thr Leu Thr Tyr Phe Phe Leu Gln
50 55 60

His Leu Ala Phe Val Asp Ile Cys Tyr Thr Ser Ala Ile Thr Pro Lys
65 70 75 80

Met Leu Gln Ser Phe Thr Glu Glu Lys Asn Leu Met Leu Phe Gln Gly
85 90 95

Cys Val Ile Gln Phe Leu Val Tyr Ala Thr Phe Ala Thr Ser Asp Cys
100 105 110

Tyr Leu Leu Ala Met Met Ala Val Asp Pro Tyr Val Ala Ile Cys Lys
115 120 125

Pro Leu His Tyr Thr Val Ile Met Ser Arg Thr Val Cys Ile Arg Leu

130 135 140 160 200 FCI FINAL:3123

130 135 140

Val Ala Gly Ser Tyr Ile Met Gly Ser Ile Asn Ala Ser Val Gln Thr
145 150 155 160

Gly Phe Thr Cys Ser Leu Ser Phe Cys Lys Ser Asn Ser Ile Asn His
165 170 175

Phe Phe Cys Asp Val Pro Pro Ile Leu Ala Leu Ser Cys Ser Asn Val
180 185 190

Asp Ile Asn Ile Met Leu Leu Val Val Phe Val Gly Ser Asn Leu Ile
195 200 205

Phe Thr Gly Leu Val Val Ile Phe Ser Tyr Ile Tyr Ile Met Ala Thr
210 215 220

Ile Leu Lys Met Ser Ser Ser Ala Gly Arg Lys Lys Ser Phe Ser Thr
225 230 235 240

Cys Ala Ser His Leu Thr Ala Val Thr Ile Phe Tyr Gly Thr Leu Ser
245 250 255

Tyr Met Tyr Leu Gln Ser His Ser Asn Asn Ser Gln Glu Asn Met Lys
260 265 270

Val Ala Phe Ile Phe Tyr Gly Thr Val Ile Pro Met Leu Asn Pro Leu
275 280 285

Ile Tyr Ser Leu Arg Asn Lys Glu Val Lys Glu Ala Leu Lys Val Ile
290 295 300

Gly Lys Lys Leu Phe
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<210> 189
<211> 522
<212> DNA
<213> *Homo sapiens*

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1           5           10          15

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tgc atg ata caa tta ttg gtt tat gca aca ttt gca acc agt gac tgt   96
Cys Met Ile Gln Leu Leu Val Tyr Ala Thr Phe Ala Thr Ser Asp Cys
          20           25           30

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tat ctc ctg gct atg ata gca gtg gac cat tat gtt gca atc tgt aag 144
Tyr Leu Leu Ala Met Ile Ala Val Asp His Tyr Val Ala Ile Cys Lys
35 40 45

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ccc ctt cac tat acc gta atc acg tcc caa aca gtc tgc atc cat ttg 192
Pro Leu His Tyr Thr Val Ile Thr Ser Gln Thr Val Cys Ile His Leu
      50          60

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gta gct ggt tca tac atc atg ggc tca ata aat gcc tct gta cat aca 240
Val Ala Gly Ser Tyr Ile Met Gly Ser Ile Asn Ala Ser Val His Thr
65          70           75          80

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gg ttt gca ttt tca ctg tct ttc tgc aag tcc aat aac atc aac cac 288

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Phe Phe Cys Asp Gly Pro Pro Ile Leu Ala Leu Ser Cys Ser Asn Ile		
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Asp Ile Asn Ile Met Leu Leu Val Val Phe Val Gly Phe Asn Leu Met		
115	120	125
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Phe Thr Gly Leu Glu Asn Met Lys Val Ala Ser Ile Phe Tyr Gly Thr		
130	135	140
gtt att ccc atg ttg aat cct tta atc tat agc ttg aga aat aag gaa		480
Val Ile Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn Lys Glu		
145	150	155
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Tyr Leu Leu Ala Met Ile Ala Val Asp His Tyr Val Ala Ile Cys Lys
35 40 45

Pro Leu His Tyr Thr Val Ile Thr Ser Gln Thr Val Cys Ile His Leu
50 55 60

Val Ala Gly Ser Tyr Ile Met Gly Ser Ile Asn Ala Ser Val His Thr
65 70 75 80

Gly Phe Ala Phe Ser Leu Ser Phe Cys Lys Ser Asn Asn Ile Asn His
85 90 95

Phe Phe Cys Asp Gly Pro Pro Ile Leu Ala Leu Ser Cys Ser Asn Ile
100 105 110

Asp Ile Asn Ile Met Leu Leu Val Val Phe Val Gly Phe Asn Leu Met
115 120 125

Phe Thr Gly Leu Glu Asn Met Lys Val Ala Ser Ile Phe Tyr Gly Thr
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Leu Cys Ile Lys Leu Leu Val Ser Ser Tyr Val Met Gly Phe Leu Asn
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Lys Thr Ile Asn His Phe Phe Cys Asp Glu Pro Pro Ile Ile Ala Leu
40 45 50

cca tgc tcc aat att gag ctc aac atc atg tta tta aca gta ttt gtg 246
Pro Cys Ser Asn Ile Asp Leu Asn Ile Met Leu Leu Thr Val Phe Val
55 60 65

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Gly Leu Asn Leu Met Cys Thr Val Met Val Val Ile Ile Ser Cys Ile
70 75 80

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Tyr Val Leu Val Ala Ile Leu Arg Ile Ser Ser Ala Ala Gly Lys Lys
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Lys Val Ser Leu His Val Pro Pro Thr
105

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35 40 45

Ile Ile Ala Leu Pro Cys Ser Asn Ile Asp Leu Asn Ile Met Leu Leu
50 55 60

Thr Val Phe Val Gly Leu Asn Leu Met Cys Thr Val Met Val Val Ile
65 70 75 80

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Arg Ala Thr Phe Pro Glu Leu Cys Ala Ser Leu Val Glu Ala Ser His		
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Leu Gly Phe Val Asn Ser Thr Ile Ile Thr Ser Glu Thr Pro Thr		
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Pro Pro Leu Val Lys Leu Val Cys Asp Val Lys Glu Arg Tyr Gln Ala		
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Val Leu His Phe Met Leu Ala Ser Asn His His Ser His Cys Thr Tyr		
85 90 95		
tct tgc gtc cat ctc ttc atc att gca gcc atc tcg aag atc cgt tcc	336	
Ser Cys Val His Leu Phe Ile Ile Ala Ala Ile Ser Lys Ile Arg Ser		
100 105 110		
att aag ggc cgc ctc cag gtc ttc tcc act tgt ggg tct ccc ctg acg	384	
Ile Lys Gly Arg Leu Gln Val Phe Ser Thr Cys Gly Ser Pro Leu Thr		
115 120 125		
gct ctc acc ttg tac tat ggt gca atc ttc ttt att tac tcc caa cca	432	
Ala Leu Thr Leu Tyr Tyr Gly Ala Ile Phe Phe Ile Tyr Ser Gln Pro		
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Arg Thr Ser Tyr Ala Leu Lys Met Asp Lys Leu Gly Ser Val Phe Tyr		
145 150 155 160		
act gtg gtg att cca atg cta aac ccc ttg atc tat agc tta aga aat	528	
Thr Val Val Ile Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn		
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Lys Asp Val Lys Asp Ala Leu Lys Lys Met Leu Asp Arg Leu Gln Phe		
180 185 190		
ctt aaa gaa aaa tat tgt aga tat ggg ctg gcc tgt agt gag cgc tac	624	
Leu Lys Glu Lys Tyr Cys Arg Tyr Gly Leu Ala Cys Ser Glu Arg Tyr		
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Leu Gly Gly Phe Val Asn Ser Thr Ile Ile Thr Ser Glu Thr Pro Thr				
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Leu Ser Phe Cys Gly Ser Asn Ile Ile Asp Asp Phe Phe Cys Asp Leu				
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Pro Pro Leu Val Lys Leu Val Cys Asp Val Lys Glu Arg Tyr Gln Ala				
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Val Leu His Phe Met Leu Ala Ser Asn His His Ser His Cys Thr Tyr				
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Ser Cys Val His Leu Phe Ile Ile Ala Ala Ile Ser Lys Ile Arg Ser				
100		105	110	
Ile Lys Gly Arg Leu Gln Val Phe Ser Thr Cys Gly Ser Pro Leu Thr				
115		120	125	
Ala Leu Thr Leu Tyr Tyr Gly Ala Ile Phe Phe Ile Tyr Ser Gln Pro				
130		135	140	
Arg Thr Ser Tyr Ala Leu Lys Met Asp Lys Leu Gly Ser Val Phe Tyr				
145		150	155	
Thr Val Val Ile Pro Met Leu Asn Pro Leu Ile Tyr Ser Leu Arg Asn				
165		170	175	
Lys Asp Val Lys Asp Ala Leu Lys Lys Met Leu Asp Arg Leu Gln Phe				
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tcg gat gcc ggc acc agc tgc ccc gtc ctt tgc aca tgc cgt aac cag				
Ser Asp Ala Gly Thr Ser Cys Pro Val Leu Cys Thr Cys Arg Asn Gln				
20		25	30	

48

96

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gtg gtg gat tgt agc agc cag cgg cta ttc tcc gtg ccc cca gac ctg Val Val Asp Cys Ser Ser Gln Arg Leu Phe Ser Val Pro Pro Asp Leu 35 40 45	144
cca atg gac acc cga aac ctc agc ctg gcc cac aac cgc atc aca gca Pro Met Asp Thr Arg Asn Leu Ser Ala His Asn Arg Ile Thr Ala 50 55 60	192
gtg ccg cct ggc tac ctc aca tgc tac atg gag ctc cag gtg ctg gat Val Pro Pro Gly Tyr Leu Thr Cys Tyr Met Glu Leu Gln Val Leu Asp 65 70 75 80	240
ttg cac aac aac tcc tta atg gag ctg ccc cgg ggc ctc ttc ctc cat Leu His Asn Asn Ser Leu Met Glu Leu Pro Arg Gly Leu Phe Leu His 85 90 95	288
gcc aag cgc ttg gca cac ttg gac ctg agc tac aac aat ttc agc cat Ala Lys Arg Leu Ala His Leu Asp Leu Ser Tyr Asn Asn Phe Ser His 100 105 110	336
gtg cca gcc gac atg ttc cag gag gcc cat ggg cta gtc cac atc gac Val Pro Ala Asp Met Phe Gln Glu Ala His Gly Leu Val His Ile Asp 115 120 125	384
ctg agc cac aac ccc tgg ctg cgg agg gtg cat ccc cag gcc ttt cag Leu Ser His Asn Pro Trp Leu Arg Arg Val His Pro Gln Ala Phe Gln 130 135 140	432
ggc ctc atg cag ctc cga gac ctg gac ctc agt tat ggg ggc ctg gcc Gly Leu Met Gln Leu Arg Asp Leu Asp Leu Ser Tyr Gly Leu Ala 145 150 155 160	480
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cag atc ggt ggc aat ccc tgg gtg tgt ggc tgc acc atg gaa ccc ctg Gln Ile Gly Asn Pro Trp Val Cys Gly Cys Thr Met Glu Pro Leu 180 185 190	576
ctg aag tgg ctg cga aac cgg atc cag cgc tgt aca gca gag tca ggt Leu Lys Trp Leu Arg Asn Arg Ile Gln Arg Cys Thr Ala Glu Ser Gly 195 200 205	624
tct ggc ctg ccg gaa gag tca gaa cct gag tcc tgg act ggc caa agg Ser Gly Leu Pro Glu Ser Glu Pro Glu Ser Trp Thr Gly Gln Arg 210 215 220	672
gct gca gta gag ttc cag gac ctc atg cag ctc caa gac ctg gat ctc Ala Ala Val Glu Phe Gln Asp Leu Met Gln Leu Gln Asp Leu Asp Leu 225 230 235 240	720
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35 40 45

Pro Met Asp Thr Arg Asn Leu Ser Leu Ala His Asn Arg Ile Thr Ala
50 55 60

Val Pro Pro Gly Tyr Leu Thr Cys Tyr Met Glu Leu Gln Val Leu Asp
65 70 75 80

Leu His Asn Asn Ser Leu Met Glu Leu Pro Arg Gly Leu Phe Leu His
85 90 95

Ala Lys Arg Leu Ala His Leu Asp Leu Ser Tyr Asn Asn Phe Ser His
100 105 110

Val Pro Ala Asp Met Phe Gln Glu Ala His Gly Leu Val His Ile Asp
115 120 125

Leu Ser His Asn Pro Trp Leu Arg Arg Val His Pro Gln Ala Phe Gln
130 135 140

Gly Leu Met Gln Leu Arg Asp Leu Asp Leu Ser Tyr Gly Leu Ala
145 150 155 160

Phe Leu Ser Leu Glu Ala Leu Glu Gly Leu Pro Gly Leu Val Thr Leu
165 170 175

Gln Ile Gly Gly Asn Pro Trp Val Cys Gly Cys Thr Met Glu Pro Leu
180 185 190

Leu Lys Trp Leu Arg Asn Arg Ile Gln Arg Cys Thr Ala Glu Ser Gly
195 200 205

Ser Gly Leu Pro Glu Glu Ser Glu Pro Glu Ser Trp Thr Gly Gln Arg
210 215 220

Ala Ala Val Glu Phe Gln Asp Leu Met Gln Leu Gln Asp Leu Asp Leu
225 230 235 240

Ser Tyr Glu Asn Leu Ala Phe Leu Lys Leu Lys Ala Leu Ser Ser Val
245 250 255

Asn Phe Gly His Arg Gln Ala Val Val Gly Gly Leu Ser Asn Pro Leu
260 265 270

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Ser Phe Pro Gly Tyr Leu Thr Leu Pro Gly Phe Cys Val Thr Asp Ser
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Gln Leu Ala Glu Cys Arg Gly Pro Pro Glu Val Glu Gly Ala Pro Leu
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Leu Asp Asp Tyr Leu Phe Ile Ala Phe Val Gly Phe Val Val Ser Ile
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Phe Thr Glu Tyr Pro Glu Trp Ala Leu Pro Leu Phe Leu Leu Phe Leu	
20 25 30	
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65 70 75 80	
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Met Leu Ala Val Leu Leu Glu His Gly Ala Ala Leu Ser Tyr Thr Arg	
85 90 95	
tgt gct gct cag ttc ttt ctg ttc acc ttc ttt ggt tcc atc gac tgc	336
Cys Ala Ala Gln Phe Phe Leu Phe Thr Phe Phe Gly Ser Ile Asp Cys	
100 105 110	
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Tyr Leu Ala Leu Met Ala Tyr Asp Arg Tyr Leu Ala Val Cys Gln	
115 120 125	
ccc ctg ctt tat gtc acc atc ctg aca cag cag gcc cgc ttg agt ctt	432
Pro Leu Leu Tyr Val Thr Ile Leu Thr Gln Gln Ala Arg Leu Ser Leu	
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Val Ala Gly Ala Tyr Val Ala Gly Leu Ile Ser Ala Leu Val Arg Thr	
145 150 155 160	
gtc tca gcc ttc act ctc tcc ttc tgt gga acc agt gag att gac ttt	528
Val Ser Ala Phe Thr Leu Ser Phe Cys Gly Thr Ser Glu Ile Asp Phe	
165 170 175	
att ttc tgt gac ctc cct ctg tta aag ttg acc tgt ggg gag agc	576
Ile Phe Cys Asp Leu Pro Pro Leu Lys Leu Thr Cys Gly Glu Ser	
180 185 190	

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gct tcc atg gtg gtg atc ttg gtg tcc tac ctg ttt atc atc gtg gcc Ala Ser Met Val Val Ile Leu Val Ser Tyr Leu Phe Ile Val Ala 210 215 220	672
atc atg ggg atc cct gct gga agc cag gcc aag acc ttc tcc acc tgc Ile Met Gly Ile Pro Ala Gly Ser Gln Ala Lys Thr Phe Ser Thr Cys 225 230 235 240	720
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gtg tct gtg ctt tac aca gag gtc atc ccc atg ttg aat ccc ctc atc Val Ser Val Leu Tyr Thr Glu Val Ile Pro Met Leu Asn Pro Leu Ile 275 280 285	864
tac agc ctg agg aac aag gaa gtg aag gag gcc ctg aga aaa att ctc Tyr Ser Leu Arg Asn Lys Glu Val Lys Glu Ala Leu Arg Lys Ile Leu 290 295 300	912
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<400> 215

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Phe Thr Glu Tyr Pro Glu Trp Ala Leu Pro Leu Phe Leu Leu Phe Leu
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Phe Met Tyr Leu Ile Thr Val Leu Gly Asn Leu Glu Met Ile Ile Leu
35 40 45

Ile Leu Met Asp His Gln Leu His Ala Pro Met Tyr Phe Leu Leu Ser
50 55 60

His Leu Ala Phe Met Asp Val Cys Tyr Ser Ser Ile Thr Val Pro Gln
65 70 75 80

Met Leu Ala Val Leu Leu Glu His Gly Ala Ala Leu Ser Tyr Thr Arg
85 90 95

Cys Ala Ala Gln Phe Phe Leu Phe Thr Phe Phe Gly Ser Ile Asp Cys
100 105 110

Tyr Leu Leu Ala Leu Met Ala Tyr Asp Arg Tyr Leu Ala Val Cys Gln
115 120 125

Pro Leu Leu Tyr Val Thr Ile Leu Thr Gln Gln Ala Arg Leu Ser Leu
130 135 140

Val Ala Gly Ala Tyr Val Ala Gly Leu Ile Ser Ala Leu Val Arg Thr
145 150 155 160

16U 200 PCT FINAL.ST25

Val Ser Ala Phe Thr Leu Ser Phe Cys Gly Thr Ser Glu Ile Asp Phe
 165 170 175

Ile Phe Cys Asp Leu Pro Pro Leu Leu Lys Leu Thr Cys Gly Glu Ser
 180 185 190

Tyr Thr Gln Glu Val Leu Ile Ile Met Phe Ala Ile Phe Val Ile Pro
 195 200 205

Ala Ser Met Val Val Ile Leu Val Ser Tyr Leu Phe Ile Ile Val Ala
 210 215 220

Ile Met Gly Ile Pro Ala Gly Ser Gln Ala Lys Thr Phe Ser Thr Cys
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 260 265 270

Val Ser Val Leu Tyr Thr Glu Val Ile Pro Met Leu Asn Pro Leu Ile
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<213> Homo sapiens

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<222> (1)...(930)

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 1 5 10 15

48

cag gtt ggt cca gca ctg gag att ctc ctc tgt gga ctt ttc tct gcc
 Gln Val Gly Pro Ala Leu Glu Ile Leu Leu Cys Gly Leu Phe Ser Ala
 20 25 30

96

ttc tat aca ctc acc ctg ctg ggg aat ggg gtc atc ttt ggg att atc
 Phe Tyr Thr Leu Thr Leu Leu Gly Asn Gly Val Ile Phe Gly Ile Ile
 35 40 45

144

tgc ctg gac tgt aag ctt cac aca ccc atg tac ttc ttc ctc tca cac
 Cys Leu Asp Cys Lys Leu His Thr Pro Met Tyr Phe Phe Leu Ser His
 50 55 60

192

ctg gcc att gtt gac ata tcc tat gct tcc aac tat gtc ccc aag atg
 Leu Ala Ile Val Asp Ile Ser Tyr Ala Ser Asn Tyr Val Pro Lys Met
 65 70 75 80

240

ctg acg aat ctt atg aac cag gaa agc acc atc tcc ttt ttt cca tgc
 Leu Thr Asn Leu Met Asn Gln Glu Ser Thr Ile Ser Phe Phe Pro Cys
 85 90 95

288

ata atg cag aca ttc ttg tat ttg gct ttt gct cac gta gag tgt ctg
 Ile Met Gln Thr Phe Leu Tyr Leu Ala Phe Ala His Val Glu Cys Leu

336

16U 200 PCT FINAL.ST25

100	105	110	
att ttg gtg gtg atg tcc tat gat cgc tat gcg gac atc tgc cac ccc Ile Leu Val Val Met Ser Tyr Asp Arg Tyr Ala Asp Ile Cys His Pro 115 120 125			384
tta cgt tac aat agc ctc atg agc tgg aga gtg tgc act gtc ctg gct Leu Arg Tyr Asn Ser Leu Met Ser Trp Arg Val Cys Thr Val Leu Ala 130 135 140			432
gtg gct tcc tgg gtg ttc agc ttc ctc ctg gct ctg gtc cct tta gtt Val Ala Ser Trp Val Phe Ser Phe Leu Leu Ala Leu Val Pro Leu Val 145 150 155 160			480
ctc atc ctg agc ctc ccc ttc tgc ggg cct cat gaa atc aac cac ttc Leu Ile Leu Ser Leu Pro Phe Cys Gly Pro His Glu Ile Asn His Phe 165 170 175			528
ttc tgt gaa atc ctg tct gtc ctc aag ttg gcc tgt gct gac acc tgg Phe Cys Glu Ile Leu Ser Val Leu Lys Leu Ala Cys Ala Asp Thr Trp 180 185 190			576
ctc aac cag gtg gtc atc ttt gca gcc tgc gtg ttc atc ctg gtg ggg Leu Asn Gln Val Val Ile Phe Ala Ala Cys Val Phe Ile Leu Val Gly 195 200 205			624
cca ctc tgc ctg gtg gtc tcc tac ttg cgc atc ctg gcc gcc atc Pro Leu Cys Leu Val Leu Val Ser Tyr Leu Arg Ile Leu Ala Ala Ile 210 215 220			672
ttg agg atc cag tct ggg gag ggc cgc aga aag gcc ttc tcc acc tgc Leu Arg Ile Gln Ser Gly Glu Gly Arg Arg Lys Ala Phe Ser Thr Cys 225 230 235 240			720
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acg tac atg gcc ccc aag tcc cgc cat cct gag gag cag cag aaa gtt Thr Tyr Met Ala Pro Lys Ser Arg His Pro Glu Glu Gln Gln Lys Val 260 265 270			816
ctt tcc ctg ttt tac agc ctt ttc aat cca atg ctg aac ccc ctg ata Leu Ser Leu Phe Tyr Ser Leu Phe Asn Pro Met Leu Asn Pro Leu Ile 275 280 285			864
tat agc cta agg aat gca gag gtc aag ggc gcc ctg agg agg gca ctg Tyr Ser Leu Arg Asn Ala Glu Val Lys Gly Ala Leu Arg Arg Ala Leu 290 295 300			912
agg aag gag agg ctg acg tga Arg Lys Glu Arg Leu Thr 305 310			933

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<211> 310
<212> PRT
<213> Homo sapiens

<400> 217

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Gln Val Gly Pro Ala Leu Glu Ile Leu Leu Cys Gly Leu Phe Ser Ala
20 25 30

Phe Tyr Thr Leu Thr Leu Leu Gly Asn Gly Val Ile Phe Gly Ile Ile
35 40 45

Cys Leu Asp Cys Lys Leu His Thr Pro Met Tyr Phe Phe Leu Ser His
50 55 60

Leu Ala Ile Val Asp Ile Ser Tyr Ala Ser Asn Tyr Val Pro Lys Met

16U 200 PCT FINAL.ST25
65 70 75 80

Leu Thr Asn Leu Met Asn Gln Glu Ser Thr Ile Ser Phe Phe Pro Cys
85 90 95

Ile Met Gln Thr Phe Leu Tyr Leu Ala Phe Ala His Val Glu Cys Leu
100 105 110

Ile Leu Val Val Met Ser Tyr Asp Arg Tyr Ala Asp Ile Cys His Pro
115 120 125

Leu Arg Tyr Asn Ser Leu Met Ser Trp Arg Val Cys Thr Val Leu Ala
130 135 140

Val Ala Ser Trp Val Phe Ser Phe Leu Leu Ala Leu Val Pro Leu Val
145 150 155 160

Leu Ile Leu Ser Leu Pro Phe Cys Gly Pro His Glu Ile Asn His Phe
165 170 175

Phe Cys Glu Ile Leu Ser Val Leu Lys Leu Ala Cys Ala Asp Thr Trp
180 185 190

Leu Asn Gln Val Val Ile Phe Ala Ala Cys Val Phe Ile Leu Val Gly
195 200 205

Pro Leu Cys Leu Val Leu Val Ser Tyr Leu Arg Ile Leu Ala Ala Ile
210 215 220

Leu Arg Ile Gln Ser Gly Glu Gly Arg Arg Lys Ala Phe Ser Thr Cys
225 230 235 240

Ser Ser His Leu Cys Val Val Gly Leu Phe Phe Gly Ser Ala Ile Val
245 250 255

Thr Tyr Met Ala Pro Lys Ser Arg His Pro Glu Glu Gln Gln Lys Val
260 265 270

Leu Ser Leu Phe Tyr Ser Leu Phe Asn Pro Met Leu Asn Pro Leu Ile
275 280 285

Tyr Ser Leu Arg Asn Ala Glu Val Lys Gly Ala Leu Arg Arg Ala Leu
290 295 300

Arg Lys Glu Arg Leu Thr
305 310

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<213> Homo sapiens

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att tct aac tat cct caa tgg aga gac acg ttt ttc aca tta gtg ctg 96

16U 200 PCT FINAL.ST25

Ile Ser Asn Tyr Pro Gln Trp Arg Asp Thr Phe Phe Thr Leu Val Leu			
20	25	30	
ata att tac ctc agc aca ttg ttg ggg aat gga ttt atg atc ttt ctt			144
Ile Ile Tyr Leu Ser Thr Leu Leu Gly Asn Gly Phe Met Ile Phe Leu			
35	40	45	
att cac ttt gac ccc aac ctc cac act cca atc tac ttc ttc ctt agt			192
Ile His Phe Asp Pro Asn Leu His Thr Pro Ile Tyr Phe Phe Leu Ser			
50	55	60	
aac ctg tct ttc tta gac ctt tgt tat gga aca gct tcc atg ccc cag			240
Asn Leu Ser Phe Leu Asp Leu Cys Tyr Gly Thr Ala Ser Met Pro Gin			
65	70	75	80
gct ttg gtg cat tgt ttc tct acc cat ccc tac ctc tct tat ccc cga			288
Ala Leu Val His Cys Phe Ser Thr His Pro Tyr Leu Ser Tyr Pro Arg			
85	90	95	
tgt ttg gct caa acg agt gtc tcc ttg gct ttg gcc aca gca gag tgc			336
Cys Leu Ala Gln Thr Ser Val Ser Leu Ala Leu Ala Thr Ala Glu Cys			
100	105	110	
ctc cta ctg gct gcc atg gcc tat gac cgt gtg gtt gct atc agc aat			384
Leu Leu Ala Ala Met Ala Tyr Asp Arg Val Val Ala Ile Ser Asn			
115	120	125	
ccc ctg cgt tat tca gtg gtt atg aat ggc cca gta tgt gtc tgc ttg			432
Pro Leu Arg Tyr Ser Val Val Met Asn Gly Pro Val Cys Val Cys Leu			
130	135	140	
gtt gct acc tca tgg ggg aca tca ctt gtg ctc act gcc atg ctc atc			480
Val Ala Thr Ser Trp Gly Thr Ser Leu Val Leu Thr Ala Met Leu Ile			
145	150	155	160
cta tcc ctg agg ctt cac ttc tgt ggg gct aat gtc atc aac cat ttt			528
Leu Ser Leu Arg Leu His Phe Cys Gly Ala Asn Val Ile Asn His Phe			
165	170	175	
gcc tgt gag att ctc tcc ctc att aag ctg acc tgt tct gat acc agc			576
Ala Cys Glu Ile Leu Ser Leu Ile Lys Leu Thr Cys Ser Asp Thr Ser			
180	185	190	
ctc aat gaa ttt atg atc ctc atc acc agt atc ttc acc ctg ctg cta			624
Leu Asn Glu Phe Met Ile Leu Ile Thr Ser Ile Phe Thr Leu Leu Leu			
195	200	205	
cca ttt ggg ttt gtt ctc ctc tac ata cga att gct atg gct atc			672
Pro Phe Gly Phe Val Leu Leu Ser Tyr Ile Arg Ile Ala Met Ala Ile			
210	215	220	
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Ile Arg Ile Arg Ser Leu Gln Gly Arg Leu Lys Ala Phe Thr Thr Cys			
225	230	235	240
ggc tct cac ctg acc gtg gtg aca atc ttc tat ggg tca gcc atc tcc			768
Gly Ser His Leu Thr Val Val Thr Ile Phe Tyr Gly Ser Ala Ile Ser			
245	250	255	
atg tat atg aaa act cag tcc aag tcc tac cct gac cag gac aag ttt			816
Met Tyr Met Lys Thr Gln Ser Lys Ser Tyr Pro Asp Gln Asp Lys Phe			
260	265	270	
atc tca gtg ttt tat gga gct ttg aca ccc atg ttg aac ccc ctg ata			864
Ile Ser Val Phe Tyr Gly Ala Leu Thr Pro Met Leu Asn Pro Leu Ile			
275	280	285	
tat agc ctg aga aaa aaa gat gtt aaa cgg gca ata agg aaa gtt atg			912
Tyr Ser Leu Arg Lys Lys Asp Val Lys Arg Ala Ile Arg Lys Val Met			
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ttg aaa agg aca tga			927
Leu Lys Arg Thr			
305			

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<211> 308
<212> PRT

16U 200 PCT FINAL.ST25

<213> Homo sapiens

<400> 219

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Ile Ile Tyr Leu Ser Thr Leu Leu Gly Asn Gly Phe Met Ile Phe Leu
35 40 45

Ile His Phe Asp Pro Asn Leu His Thr Pro Ile Tyr Phe Phe Leu Ser
50 55 60

Asn Leu Ser Phe Leu Asp Leu Cys Tyr Gly Thr Ala Ser Met Pro Gln
65 70 75 80

Ala Leu Val His Cys Phe Ser Thr His Pro Tyr Leu Ser Tyr Pro Arg
85 90 95

Cys Leu Ala Gln Thr Ser Val Ser Leu Ala Leu Ala Thr Ala Glu Cys
100 105 110

Leu Leu Leu Ala Ala Met Ala Tyr Asp Arg Val Val Ala Ile Ser Asn
115 120 125

Pro Leu Arg Tyr Ser Val Val Met Asn Gly Pro Val Cys Val Cys Leu
130 135 140

Val Ala Thr Ser Trp Gly Thr Ser Leu Val Leu Thr Ala Met Leu Ile
145 150 155 160

Leu Ser Leu Arg Leu His Phe Cys Gly Ala Asn Val Ile Asn His Phe
165 170 175

Ala Cys Glu Ile Leu Ser Leu Ile Lys Leu Thr Cys Ser Asp Thr Ser
180 185 190

Leu Asn Glu Phe Met Ile Leu Ile Thr Ser Ile Phe Thr Leu Leu
195 200 205

Pro Phe Gly Phe Val Leu Leu Ser Tyr Ile Arg Ile Ala Met Ala Ile
210 215 220

Ile Arg Ile Arg Ser Leu Gln Gly Arg Leu Lys Ala Phe Thr Thr Cys
225 230 235 240

Gly Ser His Leu Thr Val Val Thr Ile Phe Tyr Gly Ser Ala Ile Ser
245 250 255

Met Tyr Met Lys Thr Gln Ser Lys Ser Tyr Pro Asp Gln Asp Lys Phe
260 265 270

Ile Ser Val Phe Tyr Gly Ala Leu Thr Pro Met Leu Asn Pro Leu Ile
275 280 285

Tyr Ser Leu Arg Lys Lys Asp Val Lys Arg Ala Ile Arg Lys Val Met
290 295 300

16U 200 PCT FINAL.ST25

Leu Lys Arg Thr
305

<210> 220
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ctc atc att gct act aac aca cta gtg gct gtg gct gtg ctg ctg ttg 96
 Leu Ile Ile Ala Thr Asn Thr Leu Val Ala Val Ala Val Leu Leu Leu
 20 25 30

atc cac aag aat gat ggt gtc agt ctc tgc ttc acc ttg aat ctg gct 144
 Ile His Lys Asn Asp Gly Val Ser Leu Cys Phe Thr Leu Asn Leu Ala
 35 40 45

gtg gct gac acc ttg att ggt gtg gcc atc tct ggc cta ctc aca gac 192
Val Ala Asp Thr Leu Ile Gly Val Ala Ile Ser Gly Leu Leu Thr Asp
50 55 60

cag ctc tcc agc cct tct cgg ccc aca cag aag acc ctg tgc agc ctg 240
 Gln Leu Ser Ser Pro Ser Arg Pro Thr Gln Lys Thr Leu Cys Ser Leu
 65 70 75 80

cgg atg gca ttt gtc act tcc tcc gca gct gcc tct gtc ctc acg gtc 288
Arg Met Ala Phe Val Thr Ser Ser Ala Ala Ala Ser Val Leu Thr Val
85 90 95

atg ctg atc acc ttt gac agg tac ctt gcc atc aag cag ccc ttc cgc 336
 Met Leu Ile Thr Phe Asp Arg Tyr Leu Ala Ile Lys Gln Pro Phe Arg
 100 105 110

tac ttg aag atc atg agt ggg ttc gtg gcc ggg gcc tgc att gcc ggg 384
 Tyr Leu Lys Ile Met Ser Gly Phe Val Ala Gly Ala Cys Ile Ala Gly
 115 120 125

ctg tgg tta gtg tct tac ctc att ggc ttc ctc cca ctc gga atc ccc 434
 Leu Trp Leu Val Ser Tyr Ile Ile Gly Phe Leu Pro Leu Gly Ile Pro
 130 135 140

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atg ttc cag cag act gcc tac aaa ggg cag tgc agc ttc tt gct gta      480
Met Phe Gln Gln Thr Ala Tyr Lys Gly Gln Cys Ser Phe Phe Ala Val
145          150          155          160

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ttt cac cct cac ttc gtg ctg acc ctc tcc tgc gtt ggc ttc ttc cca
 Phe His Pro His Phe Val Leu Thr Leu Ser Cys Val Gly Phe Phe Pro
 165 170 175

gcc atg ctc ctc ttt gtc ttc ttc tac tgc gac atg ctc dag att gcc
 Ala Met Leu Leu Phe Val Phe Phe Tyr Cys Asp Met Leu Lys Ile Ala
 180 185 190

tcc atg cac agc cag cag att cga aag atg gaa cat gca gga gcc acg
Ser Met His Ser Gln Gln Ile Arg Lys Met Glu His Ala Gly Ala Met
195 200 205

gct gga ggt tat cga tcc cca cgg act ccc agc gag tcc aad gct ccc
Ala Gly Gly Tyr Arg Ser Pro Arg Thr Pro Ser Asp Phe Lys Ala Leu
210 215 220

cgt act gtg tct gtt ctc att ggg aac ttt gct cta tcc tgg acc ccc
 Arg Thr Val Ser Val Leu Ile Gly Ser Phe Ala Leu Ser Trp Thr Pro
 225 230 235 240

ttc ctt atc act ggc att gtc tag gtc gct tgc tag gag tgc tcc ctc
 Phe Leu Ile Thr Gly Ile Val Gln Val Ala Cys Gln Glu Cys His Leu
 245 250 255

16U 200 PCT FINAL.ST25

tac cta gtg ctg gaa cggtac ctgtgg ctgcgttgc aac tcc
 Tyr Leu Val Leu Glu Arg Tyr Leu Trp Leu Leu Gly Val Gly Asn Ser
 260 265 270

ctg ctc aac cca ctc atc tat gcc tat tgg cag aag gag gtg cga ctg
 Leu Leu Asn Pro Leu Ile Tyr Ala Tyr Trp Gln Lys Glu Val Arg Leu
 275 280 285

cag ctc tac cac atg gcc cta gga gtg aag aag gtg ctc acc tca ttc
 Gln Leu Tyr His Met Ala Leu Gly Val Lys Lys Val Leu Thr Ser Phe
 290 295 300

ctc ctc ttt ctc tcg gcc agg aat tgt ggc cca gag agg ccc agg gaa
 Leu Leu Phe Leu Ser Ala Arg Asn Cys Gly Pro Glu Arg Pro Arg Glu
 305 310 315 320

agt tcc tgt cac atc gtc act atc tcc agc tca gag ttt gat ggc taa
 Ser Ser Cys His Ile Val Thr Ile Ser Ser Ser Glu Phe Asp Gly
 325 330 335

<210> 221

<211> 335

<212> PRT

<213> Homo sapiens

<400> 221

Met Glu Ser Ser Phe Ser Phe Gly Val Ile Leu Ala Val Leu Ala Ser
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Leu Ile Ile Ala Thr Asn Thr Leu Val Ala Val Ala Val Leu Leu Leu
 20 25 30

Ile His Lys Asn Asp Gly Val Ser Leu Cys Phe Thr Leu Asn Leu Ala
 35 40 45

Val Ala Asp Thr Leu Ile Gly Val Ala Ile Ser Gly Leu Leu Thr Asp
 50 55 60

Gln Leu Ser Ser Pro Ser Arg Pro Thr Gln Lys Thr Leu Cys Ser Leu
 65 70 75 80

Arg Met Ala Phe Val Thr Ser Ser Ala Ala Ala Ser Val Leu Thr Val
 85 90 95

Met Leu Ile Thr Phe Asp Arg Tyr Leu Ala Ile Lys Gln Pro Phe Arg
 100 105 110

Tyr Leu Lys Ile Met Ser Gly Phe Val Ala Gly Ala Cys Ile Ala Gly
 115 120 125

Leu Trp Leu Val Ser Tyr Leu Ile Gly Phe Leu Pro Leu Gly Ile Pro
 130 135 140

Met Phe Gln Gln Thr Ala Tyr Lys Gly Gln Cys Ser Phe Phe Ala Val
 145 150 155 160

Phe His Pro His Phe Val Leu Thr Leu Ser Cys Val Gly Phe Phe Pro
 165 170 175

Ala Met Leu Leu Phe Val Phe Phe Tyr Cys Asp Met Leu Lys Ile Ala
 180 185 190

Ser Met His Ser Gln Gln Ile Arg Lys Met Glu His Ala Gly Ala Met
 195 200 205

16U 200 PCT FINAL.ST25

Ala Gly Gly Tyr Arg Ser Pro Arg Thr Pro Ser Asp Phe Lys Ala Leu
 210 215 220

Arg Thr Val Ser Val Leu Ile Gly Ser Phe Ala Leu Ser Trp Thr Pro
 225 230 235 240

Phe Leu Ile Thr Gly Ile Val Gln Val Ala Cys Gln Glu Cys His Leu
 245 250 255

Tyr Leu Val Leu Glu Arg Tyr Leu Trp Leu Leu Gly Val Gly Asn Ser
 260 265 270

Leu Leu Asn Pro Leu Ile Tyr Ala Tyr Trp Gln Lys Glu Val Arg Leu
 275 280 285

Gln Leu Tyr His Met Ala Leu Gly Val Lys Lys Val Leu Thr Ser Phe
 290 295 300

Leu Leu Phe Leu Ser Ala Arg Asn Cys Gly Pro Glu Arg Pro Arg Glu
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Leu Pro Leu Thr Asp Asp Ala Pro Pro Gly Ala Thr Glu Glu Pro Ala
20 25 30

gcc gcc gag gca gct ggg gcg cca gac cgc gtg ggc tct tta ttt gtt 144
Ala Ala Ala Ala Gly Ala Pro Asp Arg Val Gly Ser Leu Phe Val
35 40 45

aaa aaa gtg caa gac gtc cat gct gta gag att agt gcg ttt cga tgt 192
Lys Lys Val Gln Asp Val His Ala Val Glu Ile Ser Ala Phe Arg Cys
50 55 60

gtg ttc caa atg cta gtt atc cct tgc tta ata tac aga aaa act 240
Val Phe Gln Met Leu Val Val Ile Pro Cys Leu Ile Tyr Arg Lys Thr
65 70 75 80

ggg ttt ata ggc cca aaa ggt caa cga att ttc ctc att ctc aga gga 288
Gly Phe Ile Gly Pro Lys Gly Gln Arg Ile Phe Leu Ile Leu Arg Gly
85 90 95

gtc ctt ggt tct acc gcc atg atg ctt ata tac tat gct tac cag aca 336
Val Leu Gly Ser Thr Ala Met Met Leu Ile Tyr Tyr Ala Tyr Gln Thr
100 105 110

atg tcc ctc gct gat gcc aca gtt atc acg ttt agc agt cca gtg ttt 384
Met Ser Leu Ala Asp Ala Thr Val Ile Thr Phe Ser Ser Pro Val Phe
115 120 125

acg tcc ata ttt gct tgg ata tgt ctc aag gaa aaa tat agc cct tgg 432
Thr Ser Ile Phe Ala Trp Ile Cys Leu Lys Glu Lys Tyr Ser Pro Trp

130	135	140	160 200 PCT FINAL.ST25	
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160				
aga cca cca ttt ttg ttt ggt tcc gac act tcg ggg atg gaa gaa agc Arg Pro Pro Phe Leu Phe Gly Ser Asp Thr Ser Gly Met Glu Glu Ser	165	170	175	528
180				
tat tca ggc cac ctt aag gga aca ttc gca gca att gga agt gcc gta Tyr Ser Gly His Leu Lys Gly Thr Phe Ala Ala Ile Gly Ser Ala Val	180	185	190	576
190				
ttt gct gca tcg act cta gtt atc cta aga aaa atg gga aaa tct gtg Phe Ala Ala Ser Thr Leu Val Ile Leu Arg Lys Met Gly Lys Ser Val	195	200	205	624
210				
gac tac ttt ctg agc att tgg tat tat gta gta ctt ggc ctc gtt gaa Asp Tyr Phe Leu Ser Ile Trp Tyr Tyr Val Val Leu Gly Leu Val Glu	210	215	220	672
220				
agt gtc atc atc ctc tct gta tta gga gag tgg agt ctg cct tac tgt Ser Val Ile Ile Leu Ser Val Leu Gly Glu Trp Ser Leu Pro Tyr Cys	225	230	235	720
235				
ggg ttg gac agg cta ttt ctc ata ttc att ggg ctc ttt ggt ttg ggg Gly Leu Asp Arg Leu Phe Leu Ile Phe Ile Gly Leu Phe Gly Leu Gly	245	250	255	768
255				
ggt cag ata ttt atc aca aaa gca ctt caa ata gaa aaa gca ggg cca Gly Gln Ile Phe Ile Thr Lys Ala Leu Gln Ile Glu Lys Ala Gly Pro	260	265	270	816
270				
gta gca ata atg aag aca atg gat gtg gtc ttt gct ttt atc ttt cag Val Ala Ile Met Lys Thr Met Asp Val Val Phe Ala Phe Ile Phe Gln	275	280	285	864
285				
att att ttc ttt aat aat gtg cca acg tgg tgg aca gtg ggt ggt gct Ile Ile Phe Phe Asn Asn Val Pro Thr Trp Trp Thr Val Gly Gly Ala	290	295	300	912
300				
ctc tgc gta gta gcc agt aat gtt gga gcg gcc att cgt aaa tgg tac Leu Cys Val Val Ala Ser Asn Val Gly Ala Ala Ile Arg Lys Trp Tyr	305	310	315	960
315				
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<210> 223
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<212> PRT
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<400> 223

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Ala Ala Glu Ala Ala Gly Ala Pro Asp Arg Val Gly Ser Leu Phe Val
35 40 45

Lys Lys Val Gln Asp Val His Ala Val Glu Ile Ser Ala Phe Arg Cys
50 55 60

Val Phe Gln Met Leu Val Val Ile Pro Cys Leu Ile Tyr Arg Lys Thr
65 70 75 80

Gly Phe Ile Gly Pro Lys Gly Gln Arg Ile Phe Leu Ile Leu Arg Gly

85 90 16U 200 PCT FINAL.ST25
95

Val Leu Gly Ser Thr Ala Met Met Leu Ile Tyr Tyr Ala Tyr Gln Thr
100 105 110

Met Ser Leu Ala Asp Ala Thr Val Ile Thr Phe Ser Ser Pro Val Phe
115 120 125

Thr Ser Ile Phe Ala Trp Ile Cys Leu Lys Glu Lys Tyr Ser Pro Trp
130 135 140

Asp Ala Leu Phe Thr Val Phe Thr Ile Thr Gly Val Ile Leu Ile Val
145 150 155 160

Arg Pro Pro Phe Leu Phe Gly Ser Asp Thr Ser Gly Met Glu Glu Ser
165 170 175

Tyr Ser Gly His Leu Lys Gly Thr Phe Ala Ala Ile Gly Ser Ala Val
 180 185 190

Phe Ala Ala Ser Thr Leu Val Ile Leu Arg Lys Met Gly Lys Ser Val
195 200 205

Asp Tyr Phe Leu Ser Ile Trp Tyr Tyr Val Val Leu Gly Leu Val Glu
210 215 220

Ser Val Ile Ile Leu Ser Val Leu Gly Glu Trp Ser Leu Pro Tyr Cys
225 230 235 240

Gly Leu Asp Arg Leu Phe Leu Ile Phe Ile Gly Leu Phe Gly Leu Gly
245 250 255

Gly Gln Ile Phe Ile Thr Lys Ala Leu Gln Ile Glu Lys Ala Gly Pro
260 265 270

Val Ala Ile Met Lys Thr Met Asp Val Val Phe Ala Phe Ile Phe Glu
275 280 285

Ile Ile Phe Phe Asn Asn Val Pro Thr Trp Trp Thr Val Gly Gly Ala
290 295 300 .

Leu Cys Val Val Ala Ser Asn Val Gly Ala Ala Ile Arg Lys Trp Tyr
305 310 315 320

Gln Ser Ser Lys

<210> 224
<211> 876
<212> DNA
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48

atc cct gga ctt gag cag tac cac gtc tgg atc agc atc cca ttc tgc 96

16U 200 PCT FINAL.ST25

Ile Pro Gly Leu Glu Gln Tyr His Val Trp Ile Ser Ile Pro Phe Cys				
20	25	30		
tta atc tat ctc atg gct gtc gtg gcc aat agt atc ctt ctc tac ctc				144
Leu Ile Tyr Leu Met Ala Val Val Ala Asn Ser Ile Leu Leu Tyr Leu				
35	40	45		
att gtg gta gag cac agt ctt cat gca ccc atg ttc ttt ttc ctt tcc				192
Ile Val Val Glu His Ser Leu His Ala Pro Met Phe Phe Phe Leu Ser				
50	55	60		
atg ctg gcc att act gat ctc ata ttg tcc acc aca tgt gtc ccc aaa				240
Met Leu Ala Ile Thr Asp Leu Ile Leu Ser Thr Thr Cys Val Pro Lys				
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aca ctt agc atc ttc tgc ttt gtg ttg gac tca gct ata ctg ctg gcc				288
Thr Leu Ser Ile Phe Cys Phe Val Leu Asp Ser Ala Ile Leu Leu Ala				
85	90	95		
atg gca ttt gac cgc tat atg gcc att tgc tca ccc ttg aga tac act				336
Met Ala Phe Asp Arg Tyr Met Ala Ile Cys Ser Pro Leu Arg Tyr Thr				
100	105	110		
act att ctg act ccc aaa acc att gtc aaa att gct gtg gga ata tgt				384
Thr Ile Leu Thr Pro Lys Thr Ile Val Lys Ile Ala Val Gly Ile Cys				
115	120	125		
ttc cga agt ttc tgt gtt ttt gtc cca tgt gtt ttc ctt gtg aat cgt				432
Phe Arg Ser Phe Cys Val Phe Val Pro Cys Val Phe Leu Val Asn Arg				
130	135	140		
tta ccc ttc tgc agg aca cat atc att tct cac aca tac tgt gag cac				480
Leu Pro Phe Cys Arg Thr His Ile Ile Ser His Thr Tyr Cys Glu His				
145	150	155	160	
ata ggt gtt gcc cag ctt gcc tgt gct gat atc tcc atc aat atc tgg				528
Ile Gly Val Ala Gln Leu Ala Cys Ala Asp Ile Ser Ile Asn Ile Trp				
165	170	175		
tgt gga ttt tgt gtt ccc atc atg acg gtg atg aca gac gtg atc ctc				576
Cys Gly Phe Cys Val Pro Ile Met Thr Val Met Thr Asp Val Ile Leu				
180	185	190		
att gct gtc tcc tac acc ctc atc ctc tgt gct gtc ttt tgc ctc ccc				624
Ile Ala Val Ser Tyr Thr Leu Ile Leu Cys Ala Val Phe Cys Leu Pro				
195	200	205		
tcc caa gat gcc cgt cag aag gcc ctt tgc tcc tgt ggt tcc cat gtc				672
Ser Gln Asp Ala Arg Gln Lys Ala Leu Cys Ser Cys Gly Ser His Val				
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Cys Val Ile Leu Ile Phe Tyr Ile Pro Ala Phe Phe Ser Ile Leu Ala				
225	230	235	240	
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His Cys Phe Gly His Asn Val Pro His Thr Phe His Ile Met Phe Ala				
245	250	255		
aac ctt tat gta atc att cca cct gct ctc aac tct att gtc tac aga				816
Asn Leu Tyr Val Ile Ile Pro Pro Ala Leu Asn Ser Ile Val Tyr Arg				
260	265	270		
ata aag acc aagcaa atc cag aac aga atc ctt ttg ctc ttt ccc aag				864
Ile Lys Thr Lys Gln Ile Gln Asn Arg Ile Leu Leu Phe Pro Lys				
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Leu Ile Tyr Leu Met Ala Val Val Ala Asn Ser Ile Leu Leu Tyr Leu
35 40 45

Ile Val Val Glu His Ser Leu His Ala Pro Met Phe Phe Phe Leu Ser
50 55 60

Met Leu Ala Ile Thr Asp Leu Ile Leu Ser Thr Thr Cys Val Pro Lys
65 70 75 80

Thr Leu Ser Ile Phe Cys Phe Val Leu Asp Ser Ala Ile Leu Leu Ala
85 90 95

Met Ala Phe Asp Arg Tyr Met Ala Ile Cys Ser Pro Leu Arg Tyr Thr
100 105 110

Thr Ile Leu Thr Pro Lys Thr Ile Val Lys Ile Ala Val Gly Ile Cys
115 120 125

Phe Arg Ser Phe Cys Val Phe Val Pro Cys Val Phe Leu Val Asn Arg
130 135 140

Leu Pro Phe Cys Arg Thr His Ile Ile Ser His Thr Tyr Cys Glu His
145 150 155 160

Ile Gly Val Ala Gln Leu Ala Cys Ala Asp Ile Ser Ile Asn Ile Trp
165 170 175

Cys Gly Phe Cys Val Pro Ile Met Thr Val Met Thr Asp Val Ile Leu
180 185 190

Ile Ala Val Ser Tyr Thr Leu Ile Leu Cys Ala Val Phe Cys Leu Pro
195 200 205

Ser Gln Asp Ala Arg Gln Lys Ala Leu Cys Ser Cys Gly Ser His Val
210 215 220

Cys Val Ile Leu Ile Phe Tyr Ile Pro Ala Phe Phe Ser Ile Leu Ala
225 230 235 240

His Cys Phe Gly His Asn Val Pro His Thr Phe His Ile Met Phe Ala
245 250 255

Asn Leu Tyr Val Ile Ile Pro Pro Ala Leu Asn Ser Ile Val Tyr Arg
260 265 270

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Gly Ser Gln
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16U 200 PCT FINAL.ST25

<213> Homo sapiens

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His Leu Val Phe Val Lys Val		
240	245	
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<400> 227

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Ala Leu Leu Cys Leu Ser Ala Ser Ile Ile Tyr Pro Thr Thr Tyr Tyr Leu
35 40 45

Gln Phe Leu Ser His Gly Arg Ser Arg Asp His Ala Ile Ala Ala Ile
50 55 60

Val Phe Ser Gly Ile Ala Cys Val Ala Tyr Ala Thr Glu Val Thr Trp
65 70 75 80

Thr Arg Ala Arg Pro Gly Glu Ile Thr Asp Tyr Met Ala Ser Glu Leu
85 90 95

Gly Leu Leu Lys Val Leu Glu Thr Phe Val Ala Cys Leu Ile Phe Val
100 105 110

Phe Ile Asn Ser Pro Tyr Val Tyr His Asn Arg Pro Ala Leu Glu Trp
115 120 125

Trp Val Ala Val Tyr Ala Leu Cys Phe Val Leu Ala Ala Leu Thr Ile
130 135 140

Leu Leu Ser Leu Gly His Cys Thr Asn Met Leu Pro Ile Arg Phe Pro
145 150 155 160

16U 200 PCT FINAL.ST25

Ser Phe Leu Leu Gly Leu Ala Leu Leu Ser Val Leu Leu Tyr Ala Thr
165 170 175

Gln Pro Trp Gln Thr Arg Asp Val Ser Cys Ser Asp Arg Asn Pro Tyr
195 200 205

Leu Val Cys Ile Trp Asp Arg Arg Leu Ala Val Thr Asn Leu Thr Ala
210 215 220

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225 230 235 240

Val Phe Val Lys Val
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ccc cat ttc ctg caa cag cca gag gac ctg gtg gtg ctg ctg ggg gag 329
 Pro His Phe Leu Gln Gln Pro Glu Asp Leu Val Val Leu Leu Gly Glu
 25 30 35

gaa gcc cgg ctg ccg tgt gct ctg ggc gcc tac tgg ggg cta gtt cag 377
 Glu Ala Arg Leu Pro Cys Ala Leu Gly Ala Tyr Trp Gly Leu Val Gln
 40 45 50 55

tgg act aag agt ggg ctg gcc cta ggg ggc caa agg gac cta cca ggg 425
Trp Thr Lys Ser Gly Leu Ala Leu Gly Gly Gln Arg Asp Leu Pro Gly
60 65 70

tgg tcc cgg tac tgg ata tca ggg aat gca gcc aat ggc cag cat gac	473		
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75	80	85	

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Leu His Ile Arg Pro Val Glu Leu Glu Asp Glu Ala Ser Tyr Glu Cys
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Gln Ala Thr Gln Ala Gly Leu Arg Ser Arg Pro Ala Gln Leu His Val
105 110 115

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ctg gtc ccc cca gaa gcc ccc cag gtg ctg ggc ggc ccc tct gtg tct      617
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120          125          130          135

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tct ccc gcc cca gat gcc gtg gtc tgg tct tgg gat gag ggc ttc ctg Ser Pro Ala Pro Asp Ala Val Val Trp Ser Trp Asp Glu Gly Phe Leu 425 430 435	1529
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tcg ggg acc cag gag tct gac ttt agc agg agc ttt aac tgc agt gcc Ser Gly Thr Gln Glu Ser Asp Phe Ser Arg Ser Phe Asn Cys Ser Ala 475 480 485	1673
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Pro	Phe	Ser	His	Asp	Asp	Gly	Ala	Thr	Phe	Val	Cys	Arg	Ala	Arg	Ser
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Gly Pro Arg Leu Glu Val Val Ala Asp Ala Ser Phe Leu Thr Glu Pro
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290 295 300

Ala Leu Asp Val Leu Phe Gly Pro Ile Leu Gln Ala Lys Pro Glu Pro
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Val Ser Val Asp Val Gly Glu Asp Ala Ser Phe Ser Cys Ala Trp Arg
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Gly Asn Pro Leu Pro Arg Val Thr Trp Thr Arg Arg Gly Gly Ala Gln
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Val Leu Gly Ser Gly Ala Thr Leu Arg Leu Pro Ser Val Gly Pro Glu
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Arg Gly Gly Ala Ala Glu Ala Arg Leu Thr Val Asn Ala Pro Pro Val
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Val Thr Ala Leu His Ser Ala Pro Ala Phe Leu Arg Gly Pro Ala Arg
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Leu Gln Cys Leu Val Phe Ala Ser Pro Ala Pro Asp Ala Val Val Trp
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Ser Trp Asp Glu Gly Phe Leu Glu Ala Gly Ser Gln Gly Arg Phe Leu
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Leu Ile Ser Val Leu His Ile Ser Gly Thr Gln Glu Ser Asp Phe Ser
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Arg Ser Phe Asn Cys Ser Ala Arg Asn Arg Leu Gly Glu Gly Ala
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Ala Gly Val Ala Ala Ala Thr Thr Leu Leu Met Val Ile Thr Gly
515 520 525

Val Ala Leu Cys Cys Trp Arg His Ser Lys Ala Ser Ala Ser Phe Ser
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Glu Gln Lys Asn Leu Met Arg Ile Pro Gly Ser Ser Asp Gly Ser Ser
545 550 555 560

Ser Arg Gly Pro Glu Glu Glu Glu Thr Gly Ser Arg Glu Asp Arg Gly
565 570 575

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Pro Ile Val His Thr Asp His Ser Asp Leu Val Leu Glu Glu Lys Gly
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595 600 605

Val Ser Val Ser Leu Ser Leu Gly Glu Ala Pro Gly Gly Gly Leu Phe
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Leu Pro Pro Pro Ser Pro Leu Gly Pro Pro Gly Thr Pro Thr Phe Tyr
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Asp Phe Asn Pro His Leu Gly Met Val Pro Pro Cys Arg Leu Tyr Arg
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Ala Arg Ala Gly Tyr Leu Thr Thr Pro His Pro Arg Ala Phe Thr Ser
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Tyr Ile Lys Pro Thr Ser Phe Gly Pro Pro Asp Leu Ala Pro Gly Thr
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Gly Asp Leu His Val Asp Cys Glu Lys Lys Gly Phe Thr Ser Leu Gln	
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cgt ttc act gcc ccg act tcc cag ttt tac cat tta ttt ctg cat ggc	1087
Arg Phe Thr Ala Pro Thr Ser Gln Phe Tyr His Leu Phe Leu His Gly	
55 60 65	
aat tcc ctc act cga ctt ttc cct aat gag ttc gct aac ttt tat aat	1135
Asn Ser Leu Thr Arg Leu Phe Pro Asn Glu Phe Ala Asn Phe Tyr Asn	
70 75 80	
gcg gtt agt ttg cac atg gaa aac aat ggc ttg cat gaa atc gtt ccg	1183
Ala Val Ser Leu His Met Glu Asn Asn Gly Leu His Glu Ile Val Pro	
85 90 95	
ggg gct ttt ctg ggg ctg cag ctg gtg aaa agg ctg cac atc aac aac	1231
Gly Ala Phe Leu Gly Leu Gln Leu Val Lys Arg Leu His Ile Asn Asn	
100 105 110 115	
aac aag atc aag tct ttt cga aag cag act ttt ctg ggg ctg gac gat	1279
Asn Lys Ile Lys Ser Phe Arg Lys Gln Thr Phe Leu Gly Leu Asp Asp	
120 125 130	
ctg gaa tat ctc cag gct gat ttt aat tta tta cga gat ata gac ccg	1327
Leu Glu Tyr Leu Gln Ala Asp Phe Asn Leu Leu Arg Asp Ile Asp Pro	
135 140 145	
ggg gcc ttc cag gac ttg aac aag ctg gag gtg ctc att tta aat gac	1375
Gly Ala Phe Gln Asp Leu Asn Lys Leu Glu Val Leu Ile Leu Asn Asp	
150 155 160	
aat ctc atc agc acc cta cct gcc aac gtg ttc cag tat gtg ccc atc	1423
Asn Leu Ile Ser Thr Leu Pro Ala Asn Val Phe Gln Tyr Val Pro Ile	
165 170 175	
acc cac ctc gac ctc cgg ggt aac agg ctg aaa acg ctg ccc tat gag	1471
Thr His Leu Asp Leu Arg Gly Asn Arg Leu Lys Thr Leu Pro Tyr Glu	
180 185 190 195	
gag gtc ttg gag caa atc cct ggt att gcg gag atc ctg cta gag gat	1519
Glu Val Leu Glu Gln Ile Pro Gly Ile Ala Glu Ile Leu Leu Glu Asp	
200 205 210	
aac cct tgg gac tgc acc tgt gat ctg ctc tcc ctg aaa gaa tgg ctg	1567
Asn Pro Trp Asp Cys Thr Cys Asp Leu Leu Ser Leu Lys Glu Trp Leu	
215 220 225	
gaa aac att ccc aag aat gcc ctg atc ggc cga gtg gtc tgc gaa gcc	1615
Glu Asn Ile Pro Lys Asn Ala Leu Ile Gly Arg Val Val Cys Glu Ala	
230 235 240	
ccc acc aga ctg cag ggt aaa gac ctc aat gaa acc acc gaa cag gac	1663
Pro Thr Arg Leu Gln Gly Lys Asp Leu Asn Glu Thr Thr Glu Gln Asp	
245 250 255	
ttg tgt cct ttg aaa aac cga gtg gat tct agt ctc ccc gcg ccc cct	1711
Leu Cys Pro Leu Lys Asn Arg Val Asp Ser Ser Leu Pro Ala Pro Pro	
260 265 270 275	
gcc caa gaa gag acc ttt gct cct gga ccc ctg cca act cct ttc aag	1759
Ala Gln Glu Glu Thr Phe Ala Pro Gly Pro Leu Pro Thr Pro Phe Lys	
280 285 290	
aca aat ggg caa gag gat cat gcc aca cca ggg tct gct cca aac gga	1807
Thr Asn Gly Gln Glu Asp His Ala Thr Pro Gly Ser Ala Pro Asn Gly	
295 300 305	
ggt aca aag atc cca ggc aac tgg cag atc aaa atc aga ccc aca gca	1855

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Gly Thr Lys Ile Pro Gly Asn Trp Gln Ile Lys Ile Arg Pro Thr Ala		
310	315	320
gcg ata gcg acg ggt agc tcc agg aac aaa ccc tta gct aac agt tta		1903
Ala Ile Ala Thr Gly Ser Ser Arg Asn Lys Pro Leu Ala Asn Ser Leu		
325	330	335
ccc tgc cct ggg ggc tgc agc tgc gac cac atc cca ggg tcg ggt tta		1951
Pro Cys Pro Gly Gly Cys Ser Cys Asp His Ile Pro Gly Ser Gly Leu		
340	345	350
aag atg aac tgc aac aac agg aac gtg agc agc ttg gct gat ttg aag		1999
Lys Met Asn Cys Asn Asn Arg Asn Val Ser Ser Leu Ala Asp Leu Lys		
360	365	370
ccc aag ctc tct aac gtg cag gag ctt ttc cta cga gat aac aag atc		2047
Pro Lys Leu Ser Asn Val Gln Glu Leu Phe Leu Arg Asp Asn Lys Ile		
375	380	385
cac agc atc cga aaa tcg cac ttt gtg gat tac aag aac ctc att ctg		2095
His Ser Ile Arg Lys Ser His Phe Val Asp Tyr Lys Asn Leu Ile Leu		
390	395	400
ttg gat ctg ggc aac aat aac atc gct act gta gag aac aac act ttc		2143
Leu Asp Leu Gly Asn Asn Ile Ala Thr Val Glu Asn Asn Thr Phe		
405	410	415
aag aac ctt ttg gac ctc agg tgg cta tac atg gat agc aat tac ctg		2191
Lys Asn Leu Leu Asp Leu Arg Trp Leu Tyr Met Asp Ser Asn Tyr Leu		
420	425	430
gac acg ctg tcc cgg gag aaa ttc gcg ggg ctg caa aac cta gag tac		2239
Asp Thr Leu Ser Arg Glu Lys Phe Ala Gly Leu Gln Asn Leu Glu Tyr		
440	445	450
ctg aac gtg gag tac aac gct atc cag ctc atc ctc ccg ggc act ttc		2287
Leu Asn Val Glu Tyr Asn Ala Ile Gln Leu Ile Leu Pro Gly Thr Phe		
455	460	465
aat gcc atg ccc aaa ctg agg atc ctc att ctc aac aac ctg ctg		2335
Asn Ala Met Pro Lys Leu Arg Ile Leu Ile Asn Asn Leu Leu		
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agg tcc ctg cct gtg gac gtg ttc gct ggg gtc tcg ctc tct aaa ctc		2383
Arg Ser Leu Pro Val Asp Val Phe Ala Gly Val Ser Leu Ser Lys Leu		
485	490	495
agc ctg cac aac aat tac ttc atg tac ctc ccg gtg gca ggg gtg ctg		2431
Ser Leu His Asn Tyr Phe Met Tyr Leu Pro Val Ala Gly Val Leu		
500	505	510
gac cag tta acc tcc atc ctc cag ata gac ctc cac gga aac ccc tgg		2479
Asp Gln Leu Thr Ser Ile Ile Gln Ile Asp Leu His Gly Asn Pro Trp		
520	525	530
gag tgc tcc tgc aca att gtg cct ttc aag cag tgg gca gaa cgc ttg		2527
Glu Cys Ser Cys Thr Ile Val Pro Phe Lys Gln Trp Ala Glu Arg Leu		
535	540	545
gg tcc gaa gtg ctg atg agc gac ctc aag tgt gag acg ccg gtg aac		2575
Gly Ser Glu Val Leu Met Ser Asp Leu Lys Cys Glu Thr Pro Val Asn		
550	555	560
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Phe Phe Arg Lys Asp Phe Met Leu Leu Ser Asn Asp Glu Ile Cys Pro		
565	570	575
cag ctg tac gct agg atc tcg ccc acg tta act tcg cac agt aaa aac		2671
Gln Leu Tyr Ala Arg Ile Ser Pro Thr Leu Thr Ser His Ser Lys Asn		
580	585	595
agc act ggg ttg gcg gag acc ggg acg cac tcc aac tcc tac cta gac		2719
Ser Thr Gly Leu Ala Glu Thr Gly Thr His Ser Asn Ser Tyr Leu Asp		
600	605	610
acc agc agg gtg tcc atc tcg gtg ttg gtc ccg gga ctg ctg ctg gtg		2767
Thr Ser Arg Val Ser Ile Ser Val Leu Val Pro Gly Leu Leu Val		
615	620	625

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ttt gtc acc tcc gcc ttc acc gtg gtg ggc atg ctc gtg ttt atc ctg Phe Val Thr Ser Ala Phe Thr Val Val Gly Met Leu Val Phe Ile Leu 630 635 640	2815
agg aac cga aag cgg tcc aag aga cga gat gcc aac tcc tcc gcg tcc Arg Asn Arg Lys Arg Ser Lys Arg Arg Asp Ala Asn Ser Ser Ala Ser 645 650 655	2863
gag att aat tcc cta cag aca gtc tgt gac tct tcc tac tgg cac aat Glu Ile Asn Ser Leu Gln Thr Val Cys Asp Ser Ser Tyr Trp His Asn 660 665 670 675	2911
ggg cct tac aac gca gat ggg gcc cac aga gtg tat gac tgt ggc tct Gly Pro Tyr Asn Ala Asp Gly Ala His Arg Val Tyr Asp Cys Gly Ser 680 685 690	2959
cac tcg ctc tca gac taagacccca accccaatag gggagggcag agggaaaggcg His Ser Leu Ser Asp 695	3014
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cccagcaatt	aacaaaaaca	gcttcaactg	tgcgaatttt	atgaaccaat	gtactctgg	4874
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ccacacatat	tgatggagtc	tgcattccac	cacatatcca	cccttgagaa	gtatgtcaaa	4994
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cagagcagg	ttaagtat	ctgcatctca	gaactcatat	tctaaaggga	agtgatttct	5114
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<400> 231

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					20		25						30		

Glu	Ile	Glu	Gly	Asp	Leu	His	Val	Asp	Cys	Glu	Lys	Lys	Gly	Phe	Thr
					35		40					45			

Ser	Leu	Gln	Arg	Phe	Thr	Ala	Pro	Thr	Ser	Gln	Phe	Tyr	His	Leu	Phe
					50		55				60				

Leu	His	Gly	Asn	Ser	Leu	Thr	Arg	Leu	Phe	Pro	Asn	Glu	Phe	Ala	Asn
					65		70		75					80	

Phe	Tyr	Asn	Ala	Val	Ser	Leu	His	Met	Glu	Asn	Asn	Gly	Leu	His	Glu
					85		90						95		

Ile	Val	Pro	Gly	Ala	Phe	Leu	Gly	Leu	Gln	Leu	Val	Lys	Arg	Leu	His
					100		105					110			

Ile	Asn	Asn	Asn	Lys	Ile	Lys	Ser	Phe	Arg	Lys	Gln	Thr	Phe	Leu	Gly
					115		120				125				

Leu	Asp	Asp	Leu	Glu	Tyr	Leu	Gln	Ala	Asp	Phe	Asn	Leu	Leu	Arg	Asp
					130		135			140					

Ile	Asp	Pro	Gly	Ala	Phe	Gln	Asp	Leu	Asn	Lys	Leu	Glu	Val	Leu	Ile
					145		150			155			160		

Leu	Asn	Asp	Asn	Leu	Ile	Ser	Thr	Leu	Pro	Ala	Asn	Val	Phe	Gln	Tyr
					165		170					175			

Val	Pro	Ile	Thr	His	Leu	Asp	Leu	Arg	Gly	Asn	Arg	Leu	Lys	Thr	Leu
					180		185				190				

Pro	Tyr	Glu	Glu	Val	Leu	Glu	Gln	Ile	Pro	Gly	Ile	Ala	Glu	Ile	Leu
					195		200				205				

Leu	Glu	Asp	Asn	Pro	Trp	Asp	Cys	Thr	Cys	Asp	Leu	Leu	Ser	Leu	Lys
					210		215				220				

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Glu Trp Leu Glu Asn Ile Pro Lys Asn Ala Leu Ile Gly Arg Val Val
225 230 235 240

Cys Glu Ala Pro Thr Arg Leu Gln Gly Lys Asp Leu Asn Glu Thr Thr
245 250 255

Glu Gln Asp Leu Cys Pro Leu Lys Asn Arg Val Asp Ser Ser Leu Pro
260 265 270

Ala Pro Pro Ala Gln Glu Glu Thr Phe Ala Pro Gly Pro Leu Pro Thr
275 280 285

Pro Phe Lys Thr Asn Gly Gln Glu Asp His Ala Thr Pro Gly Ser Ala
290 295 300

Pro Asn Gly Gly Thr Lys Ile Pro Gly Asn Trp Gln Ile Lys Ile Arg
305 310 315 320

Pro Thr Ala Ala Ile Ala Thr Gly Ser Ser Arg Asn Lys Pro Leu Ala
325 330 335

Asn Ser Leu Pro Cys Pro Gly Gly Cys Ser Cys Asp His Ile Pro Gly
340 345 350

Ser Gly Leu Lys Met Asn Cys Asn Asn Arg Asn Val Ser Ser Leu Ala
355 360 365

Asp Leu Lys Pro Lys Leu Ser Asn Val Gln Glu Leu Phe Leu Arg Asp
370 375 380

Asn Lys Ile His Ser Ile Arg Lys Ser His Phe Val Asp Tyr Lys Asn
385 390 395 400

Leu Ile Leu Leu Asp Leu Gly Asn Asn Ile Ala Thr Val Glu Asn
405 410 415

Asn Thr Phe Lys Asn Leu Leu Asp Leu Arg Trp Leu Tyr Met Asp Ser
420 425 430

Asn Tyr Leu Asp Thr Leu Ser Arg Glu Lys Phe Ala Gly Leu Gln Asn
435 440 445

Leu Glu Tyr Leu Asn Val Glu Tyr Asn Ala Ile Gln Leu Ile Leu Pro
450 455 460

Gly Thr Phe Asn Ala Met Pro Lys Leu Arg Ile Leu Ile Leu Asn Asn
465 470 475 480

Asn Leu Leu Arg Ser Leu Pro Val Asp Val Phe Ala Gly Val Ser Leu
485 490 495

Ser Lys Leu Ser Leu His Asn Asn Tyr Phe Met Tyr Leu Pro Val Ala
500 505 510

Gly Val Leu Asp Gln Leu Thr Ser Ile Ile Gln Ile Asp Leu His Gly
515 520 525

Asn Pro Trp Glu Cys Ser Cys Thr Ile Val Pro Phe Lys Gln Trp Ala
530 535 540

16U 200 PCT FINAL.ST25

Glu Arg Leu Gly Ser Glu Val Leu Met Ser Asp Leu Lys Cys Glu Thr
 545 550 555 560

Pro Val Asn Phe Phe Arg Lys Asp Phe Met Leu Leu Ser Asn Asp Glu
 565 570 575

Ile Cys Pro Gln Leu Tyr Ala Arg Ile Ser Pro Thr Leu Thr Ser His
 580 585 590

Ser Lys Asn Ser Thr Gly Leu Ala Glu Thr Gly Thr His Ser Asn Ser
 595 600 605

Tyr Leu Asp Thr Ser Arg Val Ser Ile Ser Val Leu Val Pro Gly Leu
 610 615 620

Leu Leu Val Phe Val Thr Ser Ala Phe Thr Val Val Gly Met Leu Val
 625 630 635 640

Phe Ile Leu Arg Asn Arg Lys Arg Ser Lys Arg Arg Asp Ala Asn Ser
 645 650 655

Ser Ala Ser Glu Ile Asn Ser Leu Gln Thr Val Cys Asp Ser Ser Tyr
 660 665 670

Trp His Asn Gly Pro Tyr Asn Ala Asp Gly Ala His Arg Val Tyr Asp
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Cys Gly Ser His Ser Leu Ser Asp
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<212> DNA

<213> Homo sapiens

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<221> CDS

<222> (32)..(346)

<223>

<400> 232

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 Arg Thr Lys Ile Met Ile Gly Ile Gly Ser Ser Leu Leu Val Ala Ala
 10 15 20

atg gtg ctc cta agt gtt gtg ttc tgt ctt tac ttc aaa gta gct aag
 Met Val Leu Leu Ser Val Val Phe Cys Leu Tyr Phe Lys Val Ala Lys
 25 30 35

gca cta aaa gct gca aag gac cct gat gct gtg gct gta aaa aat cac
 Ala Leu Lys Ala Ala Lys Asp Pro Asp Ala Val Ala Val Lys Asn His
 40 45 50 55

aac cca gac aag gtg tgt tgg gcc acg aac agc cag gcc aaa gcc acc
 Asn Pro Asp Lys Val Cys Trp Ala Thr Asn Ser Gln Ala Lys Ala Thr
 60 65 70

acc atg gag tct tgt cca tct ctc cag tgc tgt gaa ggt tgt aga atg
 Thr Met Glu Ser Cys Pro Ser Leu Gln Cys Cys Glu Gly Cys Arg Met
 75 80 85

cat gcc agt tct gat tcc ctg cca cct tgc tgt gac ata aat gag
 His Ala Ser Ser Asp Ser Leu Pro Pro Cys Cys Cys Asp Ile Asn Glu
 90 95 100

16U 200 PCT FINAL.ST25

ggc ctc tgacttggga aagctggca caaaaatctt catgagcaat atttctttct 396
 Gly Leu
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<210> 233
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<400> 233

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 20 25 30

Leu Tyr Phe Lys Val Ala Lys Ala Leu Lys Ala Ala Lys Asp Pro Asp
 35 40 45

Ala Val Ala Val Lys Asn His Asn Pro Asp Lys Val Cys Trp Ala Thr
 50 55 60

Asn Ser Gln Ala Lys Ala Thr Thr Met Glu Ser Cys Pro Ser Leu Gln
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Cys Cys Glu Gly Cys Arg Met His Ala Ser Ser Asp Ser Leu Pro Pro
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Cys Cys Cys Asp Ile Asn Glu Gly Leu
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 ttaccatact tactggcctt ggctggctct ttagctctg gatccttaat cgaggaagc 179
 atg acc acc aac ttg gat ctg aag gta tcc atg ctc agc ttc atc tca 227
 Met Thr Thr Asn Leu Asp Leu Lys Val Ser Met Leu Ser Phe Ile Ser
 1 5 10 15

gct acc tgc ttg ctc ctc tgc aac ctg ttt gtg gca cag gtt cac 275
 Ala Thr Cys Leu Leu Cys Leu Asn Leu Phe Val Ala Gln Val His
 20 25 30

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ctt aac tgg tgc agt gac atc ttt tac atg ttt gct ggg atc atc tct 371
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 50 55 60

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Thr	Val	Ile	Pro	Thr	Glu	Arg	Ser	Arg	Leu	Gly	Val	Gly	Pro	Val	Thr
				85			90							95	
aca gta tca cct gct aaa gat gaa ggg cca agg tct gag atg gaa tct															515
Thr	Val	Ser	Pro	Ala	Lys	Asp	Glu	Gly	Pro	Arg	Ser	Glu	Met	Glu	Ser
				100			105						110		
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<210> 235

<211> 127

<212> PRT

<213> Homo sapiens

<400> 235

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			20				25						30		

Trp	His	Thr	Arg	Asp	Ala	Met	Glu	Ser	Asp	Leu	Leu	Trp	Thr	Tyr	Tyr
	35					40						45			

Leu	Asn	Trp	Cys	Ser	Asp	Ile	Phe	Tyr	Met	Phe	Ala	Gly	Ile	Ile	Ser
		50				55					60				

Leu	Leu	Asn	Tyr	Leu	Thr	Ser	Arg	Ser	Pro	Ala	Cys	Asp	Glu	Asn	Val
65				70			75						80		

Thr	Val	Ile	Pro	Thr	Glu	Arg	Ser	Arg	Leu	Gly	Val	Gly	Pro	Val	Thr
				85			90						95		

Thr	Val	Ser	Pro	Ala	Lys	Asp	Glu	Gly	Pro	Arg	Ser	Glu	Met	Glu	Ser
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<212> DNA

<213> Homo sapiens

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<221> CDS

<222> (152)..(895)

16U 200 PCT FINAL.ST25

<223>

16U 200 PCT FINAL.ST25

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<211> 248
<212> PRT
<213> Homo sapiens

<400> 237

Met Ala Pro Lys Ala Ala Lys Gly Ala Lys Pro Glu Pro Ala Pro Ala
1 5 10 15

Pro Pro Pro Pro Gly Ala Lys Pro Glu Glu Asp Lys Lys Asp Gly Lys
20 25 30

Glu Pro Ser Asp Lys Pro Gln Lys Ala Val Gln Asp His Lys Glu Pro
35 40 45

Ser Asp Lys Pro Gln Lys Ala Val Gln Pro Lys His Glu Val Gly Thr
50 55 60

Arg Arg Gly Cys Arg Arg Tyr Arg Trp Glu Leu Lys Asp Ser Asn Lys
65 70 75 80

Glu Phe Trp Leu Leu Gly His Ala Glu Ile Lys Ile Arg Ser Leu Gly
85 90 95

Cys Leu Ile Ala Ala Met Ile Leu Leu Ser Ser Leu Thr Val His Pro
100 105 110

Ile Leu Arg Leu Ile Ile Thr Met Glu Ile Ser Phe Phe Ser Phe Phe
115 120 125

Ile Leu Leu Tyr Ser Phe Ala Ile His Arg Tyr Ile Pro Phe Ile Leu
130 135 140

Trp Pro Ile Ser Asp Leu Phe Asn Asp Leu Ile Ala Cys Ala Phe Leu
145 150 155 160

Val Gly Ala Val Val Phe Ala Val Arg Ser Arg Arg Ser Met Asn Leu
165 170 175

His Tyr Leu Leu Ala Val Ile Leu Ile Gly Ala Ala Gly Val Phe Ala
180 185 190

Phe Ile Asp Val Cys Leu Gln Arg Asn His Phe Arg Gly Lys Lys Ala
195 200 205

Lys Lys His Met Leu Val Pro Pro Pro Gly Lys Glu Lys Gly Pro Gln
210 215 220

Gln Gly Lys Gly Pro Glu Pro Ala Lys Pro Pro Glu Pro Gly Lys Pro
225 230 235 240

Pro Gly Pro Ala Lys Gly Lys Lys
245

<210> 238
<211> 487
<212> DNA
<213> Homo sapiens

<220>
<221> CDS

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<222> (17)...(418)
<223>

<400> 238
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 Met Ser Tyr Lys Pro Ala Leu Phe Gly Phe Leu Phe
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ctt ctg ctg ttg ctt agc aac tgg ttg gtc aag tat gaa cac aag ctc 100
 Leu Leu Leu Leu Ser Asn Trp Leu Val Lys Tyr Glu His Lys Leu
 15 20 25

acc ctc cca gag ccc cag cag gag gaa gag aaa cca aag act tct gaa 148
 Thr Leu Pro Glu Pro Gln Gln Glu Glu Lys Pro Lys Thr Ser Glu
 30 35 40

aac gac tcc aag aac agc aag gcc gtg aac aca aaa gaa gtc aat aga 196
 Asn Asp Ser Lys Asn Ser Lys Ala Val Asn Thr Lys Glu Val Asn Arg
 45 50 55 60

acg cat gcc tgc ttt gcc ctc cag gac gag atc ctc caa cgg ctg ttg 244
 Thr His Ala Cys Phe Ala Leu Gln Asp Glu Ile Leu Gln Arg Leu Leu
 65 70 75

ttc agt gaa atg aag atg aag gtc cta gaa aat cag atg ttc atc ata 292
 Phe Ser Glu Met Lys Met Lys Val Leu Glu Asn Gln Met Phe Ile Ile
 80 85 90

tgg aat aaa atg aat cac cac ggg cgg tca agc aga cat cgg aat ttt 340
 Trp Asn Lys Met Asn His His Gly Arg Ser Ser Arg His Arg Asn Phe
 95 100 105

ccc atg aaa aaa cac aga atg agg agg cat gag tca att tgc ccc acc 388
 Pro Met Lys His Arg Met Arg Arg His Glu Ser Ile Cys Pro Thr
 110 115 120

ctg tct gac tgt act tcg agt tcc ccc agc taatgaggcc gaggcggt 438
 Leu Ser Asp Cys Thr Ser Ser Pro Ser
 125 130

ggcctctgcc gatgttacct ttaccttag taaaacccag tcacagcct 487

<210> 239
<211> 134
<212> PRT
<213> Homo sapiens

<400> 239

Met Ser Tyr Lys Pro Ala Leu Phe Gly Phe Leu Phe Leu Leu Leu
 1 5 10 15

Leu Ser Asn Trp Leu Val Lys Tyr Glu His Lys Leu Thr Leu Pro Glu
 20 25 30

Pro Gln Gln Glu Glu Lys Pro Lys Thr Ser Glu Asn Asp Ser Lys
 35 40 45

Asn Ser Lys Ala Val Asn Thr Lys Glu Val Asn Arg Thr His Ala Cys
 50 55 60

Phe Ala Leu Gln Asp Glu Ile Leu Gln Arg Leu Leu Phe Ser Glu Met
 65 70 75 80

Lys Met Lys Val Leu Glu Asn Gln Met Phe Ile Ile Trp Asn Lys Met
 85 90 95

Asn His His Gly Arg Ser Ser Arg His Arg Asn Phe Pro Met Lys Lys
 100 105 110

His Arg Met Arg Arg His Glu Ser Ile Cys Pro Thr Leu Ser Asp Cys

115

120

16U 200 PCT FINAL.ST25
125

Thr Ser Ser Ser Pro Ser
130

<210> 240
<211> 846
<212> DNA
<213> Homo sapiens

<220>
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<222> (108)..(725)
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caa cag gag gac ctg cgc ttc cct ggg atg tgg gtc tca ttg tac ttt Gln Gln Glu Asp Leu Arg Phe Pro Gly Met Trp Val Ser Leu Tyr Phe 5 10 15	164
gga atc ctg ggg ctg tgt tct gtg ata act gga ggg tgc att atc ttt Gly Ile Leu Gly Leu Cys Ser Val Ile Thr Gly Gly Cys Ile Ile Phe 20 25 30 35	212
ctg cac tgg agg aag aac ttg agg cgg gaa gag cat gcc cag cag tgg Leu His Trp Arg Lys Asn Leu Arg Arg Glu Glu His Ala Gln Gln Trp 40 45 50	260
gtg gag gtg atg aga gct gcc aca ttc acc tac agc cca ttg ttg tac Val Glu Val Met Arg Ala Ala Thr Phe Thr Tyr Ser Pro Leu Leu Tyr 55 60 65	308
tgg att aac aag cga cgg cgc tac ggc atg aat gca gcc atc aac acg Trp Ile Asn Lys Arg Arg Tyr Gly Met Asn Ala Ala Ile Asn Thr 70 75 80	356
ggc cct gcc cct gct gtc acc aag act gag act gag gtc cag aat cca Gly Pro Ala Pro Ala Val Thr Lys Thr Glu Thr Glu Val Gln Asn Pro 85 90 95	404
gat gtt ctg tgg gat ttg gac atc ccc gaa ggc agg agc cat gct gac Asp Val Leu Trp Asp Leu Asp Ile Pro Glu Gly Arg Ser His Ala Asp 100 105 110 115	452
caa gac agc aac ccc aag gcg gaa gcc cct gct ccc ctg caa cct gca Gln Asp Ser Asn Pro Lys Ala Glu Ala Pro Ala Pro Leu Gln Pro Ala 120 125 130	500
ctg cag ctg gct cca cag cag ccc cag gcc aga tcc cca ttc cca ctt Leu Gln Leu Ala Pro Gln Gln Pro Gln Ala Arg Ser Pro Phe Pro Leu 135 140 145	548
ccc atc ttt cag gag gtg ccc ttt gcc cca ccc ttg tgc aac cta ccc Pro Ile Phe Gln Glu Val Pro Phe Ala Pro Pro Leu Cys Asn Leu Pro 150 155 160	596
ccc ctg ctg aac cac tct gtc tcc tat cct ttg gcc acc tgt cct gaa Pro Leu Leu Asn His Ser Val Ser Tyr Pro Leu Ala Thr Cys Pro Glu 165 170 175	644
agg aat gtt ctc ttc cat tcc ctc ctg aat ctg gcc cag gaa gac cat Arg Asn Val Leu Phe His Ser Leu Leu Asn Leu Ala Gln Glu Asp His 180 185 190 195	692
agc ttc aat gcc aag cct ttt cct tca gaa ctg tagcctcctc tcactgaagg Ser Phe Asn Ala Lys Pro Phe Pro Ser Glu Leu 200 205	745
tggagctgc aggaatcagg tgcagatgtag gaaatggaac taacctcagg aaggtggtat	805
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<210> 241
<211> 206
<212> PRT
<213> *Homo sapiens*

<400> 241

Met Asp Ser Gln Gln Glu Asp Leu Arg Phe Pro Gly Met Trp Val Ser
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Leu Tyr Phe Gly Ile Leu Gly Leu Cys Ser Val Ile Thr Gly Gly Cys
20 25 30

Ile Ile Phe Leu His Trp Arg Lys Asn Leu Arg Arg Glu Glu His Ala
35 40 45

Gln Gln Trp Val Glu Val Met Arg Ala Ala Thr Phe Thr Tyr Ser Pro
50 55 60

Leu Leu Tyr Trp Ile Asn Lys Arg Arg Arg Tyr Gly Met Asn Ala Ala
65 70 75 80

Ile Asn Thr Gly Pro Ala Pro Ala Val Thr Lys Thr Glu Thr Glu Val
85 90 95

Gln Asn Pro Asp Val Leu Trp Asp Leu Asp Ile Pro Glu Gly Arg Ser
100 105 110

His Ala Asp Gln Asp Ser Asn Pro Lys Ala Glu Ala Pro Ala Pro Leu
115 120 125

Gln Pro Ala Leu Gln Leu Ala Pro Gln Gln Pro Gln Ala Arg Ser Pro
130 135 140

Phe Pro Leu Pro Ile Phe Gln Glu Val Pro Phe Ala Pro Pro Leu Cys
 145 150 155 160

Asn Leu Pro Pro Leu Leu Asn His Ser Val Ser Tyr Pro Leu Ala Thr
165 170 175

Cys Pro Glu Arg Asn Val Leu Phe His Ser Leu Leu Asn Leu Ala Gln
180 185 190

Glu Asp His Ser Phe Asn Ala Lys Pro Phe Pro Ser Glu Leu
195 200 205

<210> 242
<211> 663
<212> DNA
<213> *Homo sapiens*

<220>
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<222> (40)..(585)
<223>

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Asp Asn Leu Leu Glu Ser Leu Ser Leu Ser Thr Val Trp Asn Trp Ile
10 15 20

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caa gca agt ttt ttg gga gag act agt gca cct cag caa aca agt ttg Gln Ala Ser Phe Leu Gly Glu Thr Ser Ala Pro Gln Gln Thr Ser Leu 25 30 35	150
gga cta tta gat aat ctt gct cca gct gtg caa atc atc ttg agg att Gly Leu Leu Asp Asn Leu Ala Pro Ala Val Gln Ile Ile Leu Arg Ile 40 45 50	198
tct ttc ttg att tta ttg gga ata gga ata tat gcc tta tgg aaa cga Ser Phe Leu Ile Leu Gly Ile Gly Ile Tyr Ala Leu Trp Lys Arg 55 60 65	246
agt att cag tca att cag aaa aca ttg ttg ttt gta atc aca ctc tac Ser Ile Gln Ser Ile Gln Lys Thr Leu Leu Phe Val Ile Thr Leu Tyr 70 75 80 85	294
aaa ctt tac aag aag ggc tca cat att ttt gag gct ttg cta gcc aac Lys Leu Tyr Lys Gly Ser His Ile Phe Glu Ala Leu Leu Ala Asn 90 95 100	342
cca gaa gga agt ggt ctc cga att caa gac aat aat aat ctt ttc ctg Pro Glu Gly Ser Gly Leu Arg Ile Gln Asp Asn Asn Asn Leu Phe Leu 105 110 115	390
tcc ttg ggt ctg caa gag aaa att ttg aaa aaa ctt aag aca gtg gaa Ser Leu Gly Leu Gln Glu Lys Ile Leu Lys Lys Leu Lys Thr Val Glu 120 125 130	438
aac aaa atg aag aac cta gaa ggg ata atc gtt gct caa aaa cct gcc Asn Lys Met Lys Asn Leu Glu Gly Ile Ile Val Ala Gln Lys Pro Ala 135 140 145	486
acg aag agg gat tgc tcc tct gag ccc tac tgc agc tgc tct gac tgc Thr Lys Arg Asp Cys Ser Ser Glu Pro Tyr Cys Ser Cys Ser Asp Cys 150 155 160 165	534
cag agt ccc ttg tcc aca tca ggg ttt act tcc ccc att tga aat gtg Gln Ser Pro Leu Ser Thr Ser Gly Phe Thr Ser Pro Ile Asn Val 170 175 180	582
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gtatcaataa agatagagaa cgctattg	663
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<400> 243	
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Val Trp Asn Trp Ile Gln Ala Ser Phe Leu Gly Glu Thr Ser Ala Pro 20 25 30	
Gln Gln Thr Ser Leu Gly Leu Leu Asp Asn Leu Ala Pro Ala Val Gln 35 40 45	
Ile Ile Leu Arg Ile Ser Phe Leu Ile Leu Leu Gly Ile Gly Ile Tyr 50 55 60	
Ala Leu Trp Lys Arg Ser Ile Gln Ser Ile Gln Lys Thr Leu Leu Phe 65 70 75 80	
Val Ile Thr Leu Tyr Lys Leu Tyr Lys Lys Gly Ser His Ile Phe Glu 85 90 95	

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Ala Leu Leu Ala Asn Pro Glu Gly Ser Gly Leu Arg Ile Gln Asp Asn
 100 105 110

Asn Asn Leu Phe Leu Ser Leu Gly Leu Gln Glu Lys Ile Leu Lys Lys
 115 120 125

Leu Lys Thr Val Glu Asn Lys Met Lys Asn Leu Glu Gly Ile Ile Val
 130 135 140

Ala Gln Lys Pro Ala Thr Lys Arg Asp Cys Ser Ser Glu Pro Tyr Cys
 145 150 155 160

Ser Cys Ser Asp Cys Gln Ser Pro Leu Ser Thr Ser Gly Phe Thr Ser
 165 170 175

Pro Ile

<210> 244
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<212> DNA
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<222> (62)..(349)
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<400> 244
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Met Cys Phe Ala Gly Phe Ser Phe Lys Glu Lys Ile Phe Ile Ala Leu
1 5 10 15
gca tgg atg ccc aaa gct aca gta cag gct gtg tta ggt cct ctg gct 157
Ala Trp Met Pro Lys Ala Thr Val Gln Ala Val Leu Gly Pro Leu Ala
20 25 30
cta gaa aca gca aga gtc tct gca ccc cac ttg gaa cca tat gcg aag 205
Leu Glu Thr Ala Arg Val Ser Ala Pro His Leu Glu Pro Tyr Ala Lys
35 40 45
gat gtg atg tca gta gca ttt tta gcc atc tcg atc aca gct cca aat 253
Asp Val Met Ser Val Ala Phe Leu Ala Ile Ser Ile Thr Ala Pro Asn
50 55 60
gga gct cta ctt atg ggc att ctg ggg cct aaa atg ctt aca cgc cat 301
Gly Ala Leu Leu Met Gly Ile Leu Gly Pro Lys Met Leu Thr Arg His
65 70 75 80
tat gat cca agc aaa ata aaa ctg caa ttg tca aca tta gaa cat cat 349
Tyr Asp Pro Ser Lys Ile Lys Leu Gln Leu Ser Thr Leu Glu His His
85 90 95
taaaaagttt acctgtcattc atctgcctgc ttcttttaat gaatttttc acatgacaga 409
agaattttaa agtagaaata tgtaggact gtacagaaaa tccaggattt agtaaacatg 469
tgatttcagt acaggcattt tcttggactt ttactccaa agttaattta ataaaaataaa 529
tattaaatgg aa 541

<210> 245
<211> 96
<212> PRT
<213> Homo sapiens

<400> 245

Met Cys Phe Ala Gly Phe Ser Phe Lys Glu Lys Ile Phe Ile Ala Leu
1 5 10 15

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Ala Trp Met Pro Lys Ala Thr Val Gln Ala Val Leu Gly Pro Leu Ala
20 25 30

Leu Glu Thr Ala Arg Val Ser Ala Pro His Leu Glu Pro Tyr Ala Lys
35 40 45

Asp Val Met Ser Val Ala Phe Leu Ala Ile Ser Ile Thr Ala Pro Asn
50 55 60

Gly Ala Leu Leu Met Gly Ile Leu Gly Pro Lys Met Leu Thr Arg His
65 70 75 80

<210> 246
<211> 2499
<212> DNA
<213> *Homo sapiens*

<220>
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<222> (128)..(2284)
<223>

<400> 246
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 gtgagcc atg ttc gta ggc gtc gcc cgg cac tct ggg agc cag gat gaa 169
 Met Phe Val Gly Val Ala Arg His Ser Gly Ser Gln Asp Glu
 1 5 10
 gtc tca agg gga gta gag ccg ctg gag gcc gcg cgg gcc cag cct gct 217
 Val Ser Arg Gly Val Glu Pro Leu Glu Ala Ala Arg Ala Gln Pro Ala
 15 20 25 30
 aag gac agg agg gcc aag gga acc ccg aag tcc tcg aag ccc ggg aaa 265
 Lys Asp Arg Arg Ala Lys Gly Thr Pro Lys Ser Ser Lys Pro Gly Lys
 35 40 45
 aaa cac cgg tat ctg aga cta ctt cca gag gcc ttg ata agg ttc ggc 313
 Lys His Arg Tyr Leu Arg Leu Leu Pro Glu Ala Leu Ile Arg Phe Gly
 50 55 60
 ggt ttc cga aaa agg aaa aaa gcc aag tcc tca gtt tcc aag aag ccg 361
 Gly Phe Arg Lys Arg Lys Lys Ala Lys Ser Ser Val Ser Lys Lys Pro
 65 70 75
 gga gaa ttg gat gac agt ttg gag cag ccc tgt ggt ttg ggc tgc tta 409
 Gly Glu Val Asp Asp Ser Leu Glu Gln Pro Cys Gly Leu Gly Cys Leu
 80 85 90
 gtc agc acc tgc tgt gag tgt tgc aat aac att cgc tgc ttc atg att 457
 Val Ser Thr Cys Cys Glu Cys Cys Asn Asn Ile Arg Cys Phe Met Ile
 95 100 105 110
 ttc tac tgc atc ctg ctc ata tgt caa ggt ttg ttg ttt ggt ctt ata 505
 Phe Tyr Cys Ile Leu Leu Ile Cys Gln Gly Val Val Phe Gly Leu Ile
 115 120 125
 gat gtc agc att ggc gat ttt cag aag gaa tat caa ctg aaa acc att 553
 Asp Val Ser Ile Gly Asp Phe Gln Lys Glu Tyr Gln Leu Lys Thr Ile
 130 135 140
 gag aag ttg gca ttg gaa aag agt tac gat att tca tct ggc ctg gta 601
 Glu Lys Leu Ala Leu Glu Lys Ser Tyr Asp Ile Ser Ser Gly Leu Val
 145 150 155
 gca ata ttt ata gca ttc tat gga gac aga aaa aaa gta ata tgg ttt 649
 Ala Ile Phe Ile Ala Phe Tyr Gly Asp Arg Lys Lys Val Ile Trp Phe

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160	165	170	
gta gct tcc tcc ttt tta ata gga ctt gga tca ctt tta tgt gct ttt Val Ala Ser Ser Phe Leu Ile Gly Leu Gly Ser Leu Leu Cys Ala Phe			697
175	180	185	190
cca tcc att aat gaa gaa aat aaa caa agt aag gta gga att gaa gat Pro Ser Ile Asn Glu Glu Asn Lys Gln Ser Lys Val Gly Ile Glu Asp			745
195	200	205	205
att tgc gaa gaa ata aag gtt gtc agt ggt tgc cag agc agt ggt ata Ile Cys Glu Glu Ile Lys Val Val Ser Gly Cys Gln Ser Ser Gly Ile			793
210	215	220	
tca ttc caa tca aaa tac ctg tct ttc atc ctt ggg cag act gtg Ser Phe Gln Ser Lys Tyr Leu Ser Phe Phe Ile Leu Gly Gln Thr Val			841
225	230	235	
cag gga ata gca gga atg cct ctt tat atc ctt gga ata acc ttt att Gln Gly Ile Ala Gly Met Pro Leu Tyr Ile Leu Gly Ile Thr Phe Ile			889
240	245	250	
gat gag aat gtt gct aca cac tca gct ggt atc tat tta ggt att gca Asp Glu Asn Val Ala Thr His Ser Ala Gly Ile Tyr Leu Gly Ile Ala			937
255	260	265	270
gaa tgt aca tca atg att gga tat gct ctg ggt tat gtg cta gga gca Glu Cys Thr Ser Met Ile Gly Tyr Ala Leu Gly Tyr Val Leu Gly Ala			985
275	280	285	
cca cta gtt aaa gtc cct gag aat act act tct gca aca aac act aca Pro Leu Val Lys Val Pro Glu Asn Thr Ser Ala Thr Asn Thr Thr			1033
290	295	300	
gtc aat aat ggt agt cca gaa tgg cta tgg act tgg tgg att aat ttt Val Asn Asn Gly Ser Pro Glu Trp Leu Trp Thr Trp Trp Ile Asn Phe			1081
305	310	315	
ctt ttt gcc gct gtc gtt gca tgg tgt aca tta ata cca ttg tca tgc Leu Phe Ala Ala Val Val Ala Trp Cys Thr Leu Ile Pro Leu Ser Cys			1129
320	325	330	
ttt cca aac aat atg cca ggt tca aca cgg ata aaa gct agg aaa cgt Phe Pro Asn Asn Met Pro Gly Ser Thr Arg Ile Lys Ala Arg Lys Arg			1177
335	340	345	350
aaa cag ctt cat ttt ttt gac agc aga ctt aaa gat ctg aaa ctt gga Lys Gln Leu His Phe Phe Asp Ser Arg Leu Lys Asp Leu Lys Leu Gly			1225
355	360	365	
act aat atc aag gat tta tgt gct ctt tgg att ctg atg agg aat Thr Asn Ile Lys Asp Leu Cys Ala Ala Leu Trp Ile Leu Met Arg Asn			1273
370	375	380	
cca gtg ctc ata tgc cta gct ctg tca aaa gct aca gaa tat tta gtt Pro Val Leu Ile Cys Leu Ala Leu Ser Lys Ala Thr Glu Tyr Leu Val			1321
385	390	395	
att att gga gct tct gaa ttt ttg cct ata tat tta gaa aat cag ttt Ile Ile Gly Ala Ser Glu Phe Leu Pro Ile Tyr Leu Glu Asn Gln Phe			1369
400	405	410	
ata tta aca ccc act gtg gca act aca ctt gca gga ctt gtt tta att Ile Leu Thr Pro Thr Val Ala Thr Leu Ala Gly Leu Val Leu Ile			1417
415	420	425	430
cca gga ggt gca ctt ggc cag ctt ctg gga ggt gtc att gtt tcc aca Pro Gly Gly Ala Leu Gly Gln Leu Leu Gly Gly Val Ile Val Ser Thr			1465
435	440	445	
tta gaa atg tct tgt aaa gcc ctt atg aga ttt ata atg gtt aca tct Leu Glu Met Ser Cys Lys Ala Leu Met Arg Phe Ile Met Val Thr Ser			1513
450	455	460	
gtg ata tca ctt ata ctg ctt gtg ttt att att ttt gta cgc tgt aat Val Ile Ser Leu Ile Leu Val Phe Ile Phe Val Arg Cys Asn			1561
465	470	475	
cca gtg caa ttt gct ggg atc aat gaa gat tat gat gga aca agg aag			1609

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Pro Val Gln Phe Ala Gly Ile Asn Glu Asp Tyr Asp Gly Thr Arg Lys																																																																																																																													
480	485	490		ttg gga aac ctc acg gct cct tgc aat gaa aaa tgt aga tgc tca tct	1657	Leu Gly Asn Leu Thr Ala Pro Cys Asn Glu Lys Cys Arg Cys Ser Ser		495	500	505	510	tca att tat tct tct ata tgt gga aga gat gat att gaa tat ttt tct	1705	Ser Ile Tyr Ser Ser Ile Cys Gly Arg Asp Asp Ile Glu Tyr Phe Ser		515	520	525		gcc tgc ttt gca ggg tgt aca tat tct aaa gca caa aac caa aaa aag	1753	Ala Cys Phe Ala Gly Cys Thr Tyr Ser Lys Ala Gln Asn Gln Lys Lys		530	535	540		atg tac tac aat tgt tct tgc att aaa gaa gga tta ata act gca gat	1801	Met Tyr Tyr Asn Cys Ser Cys Ile Lys Glu Gly Leu Ile Thr Ala Asp		545	550	555		gca gaa ggt gat ttt att gat gcc aga ccc ggg aaa tgt gat gca aag	1849	Ala Glu Gly Asp Phe Ile Asp Ala Arg Pro Gly Lys Cys Asp Ala Lys		560	565	570		tgc tat aag tta cct ttg ttc att gct ttt atc ttt tct aca ctt ata	1897	Cys Tyr Lys Leu Pro Leu Phe Ile Ala Phe Ile Phe Ser Thr Leu Ile		575	580	585	590	ttt tct ggt ttt tct ggt gta cca atc gtc ttg gcc atg acg cgg gtt	1945	Phe Ser Gly Phe Ser Gly Val Pro Ile Val Leu Ala Met Thr Arg Val		595	600	605		gta cct gac aaa ctg cgt tct ctg gcc ttg ggt gta agc tat gtg att	1993	Val Pro Asp Lys Leu Arg Ser Leu Ala Leu Gly Val Ser Tyr Val Ile		610	615	620		ttg aga ata ttt ggg act att cct gga cca tca atc ttt aaa atg tca	2041	Leu Arg Ile Phe Gly Thr Ile Pro Gly Pro Ser Ile Phe Lys Met Ser		625	630	635		gga gaa act tct tgt att tta cgg gat gtt aat aaa tgt gga cac aca	2089	Gly Glu Thr Ser Cys Ile Leu Arg Asp Val Asn Lys Cys Gly His Thr		640	645	650		gga cgt tgt tgg ata tat aac aag aca aaa atg gct ttc tta ttg gta	2137	Gly Arg Cys Trp Ile Tyr Asn Lys Thr Lys Met Ala Phe Leu Leu Val		655	660	665	670	gga ata tgt ttt ctt tgc aaa cta tgc act atc atc ttc act act att	2185	Gly Ile Cys Phe Leu Cys Lys Leu Cys Thr Ile Ile Phe Thr Thr Ile		675	680	685		gca ttt ttc ata tac aaa cgt cgt cta aat gag aac act gac ttc cca	2233	Ala Phe Phe Ile Tyr Lys Arg Arg Leu Asn Glu Asn Thr Asp Phe Pro		690	695	700		gat gta act gtg aag aat cca aaa gtt aag aaa aaa gaa gaa act gac	2281	Asp Val Thr Val Lys Asn Pro Lys Val Lys Lys Glu Glu Thr Asp		705	710	715		ttg taactggatc atcattgtga ttgcagatca tttgaggatc agagtgtaaa	2334	Leu		aacgagtttc tctttacag attctccaag atttgtttct gtgcccact ttcagaagag	2394	gaaaatcaca cattatgttt acataagtag caaaaatata ttatggta tctgcatttt	2454	cataataaag tgtccttattg tgaaacaaaa aaaaaaaaaa aaaaa	2499
490																																																																																																																													
ttg gga aac ctc acg gct cct tgc aat gaa aaa tgt aga tgc tca tct	1657																																																																																																																												
Leu Gly Asn Leu Thr Ala Pro Cys Asn Glu Lys Cys Arg Cys Ser Ser																																																																																																																													
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gga cgt tgt tgg ata tat aac aag aca aaa atg gct ttc tta ttg gta	2137																																																																																																																												
Gly Arg Cys Trp Ile Tyr Asn Lys Thr Lys Met Ala Phe Leu Leu Val																																																																																																																													
655	660	665	670	gga ata tgt ttt ctt tgc aaa cta tgc act atc atc ttc act act att	2185	Gly Ile Cys Phe Leu Cys Lys Leu Cys Thr Ile Ile Phe Thr Thr Ile		675	680	685		gca ttt ttc ata tac aaa cgt cgt cta aat gag aac act gac ttc cca	2233	Ala Phe Phe Ile Tyr Lys Arg Arg Leu Asn Glu Asn Thr Asp Phe Pro		690	695	700		gat gta act gtg aag aat cca aaa gtt aag aaa aaa gaa gaa act gac	2281	Asp Val Thr Val Lys Asn Pro Lys Val Lys Lys Glu Glu Thr Asp		705	710	715		ttg taactggatc atcattgtga ttgcagatca tttgaggatc agagtgtaaa	2334	Leu		aacgagtttc tctttacag attctccaag atttgtttct gtgcccact ttcagaagag	2394	gaaaatcaca cattatgttt acataagtag caaaaatata ttatggta tctgcatttt	2454	cataataaag tgtccttattg tgaaacaaaa aaaaaaaaaa aaaaa	2499																																																																																								
665	670																																																																																																																												
gga ata tgt ttt ctt tgc aaa cta tgc act atc atc ttc act act att	2185																																																																																																																												
Gly Ile Cys Phe Leu Cys Lys Leu Cys Thr Ile Ile Phe Thr Thr Ile																																																																																																																													
675	680	685		gca ttt ttc ata tac aaa cgt cgt cta aat gag aac act gac ttc cca	2233	Ala Phe Phe Ile Tyr Lys Arg Arg Leu Asn Glu Asn Thr Asp Phe Pro		690	695	700		gat gta act gtg aag aat cca aaa gtt aag aaa aaa gaa gaa act gac	2281	Asp Val Thr Val Lys Asn Pro Lys Val Lys Lys Glu Glu Thr Asp		705	710	715		ttg taactggatc atcattgtga ttgcagatca tttgaggatc agagtgtaaa	2334	Leu		aacgagtttc tctttacag attctccaag atttgtttct gtgcccact ttcagaagag	2394	gaaaatcaca cattatgttt acataagtag caaaaatata ttatggta tctgcatttt	2454	cataataaag tgtccttattg tgaaacaaaa aaaaaaaaaa aaaaa	2499																																																																																																
685																																																																																																																													
gca ttt ttc ata tac aaa cgt cgt cta aat gag aac act gac ttc cca	2233																																																																																																																												
Ala Phe Phe Ile Tyr Lys Arg Arg Leu Asn Glu Asn Thr Asp Phe Pro																																																																																																																													
690	695	700		gat gta act gtg aag aat cca aaa gtt aag aaa aaa gaa gaa act gac	2281	Asp Val Thr Val Lys Asn Pro Lys Val Lys Lys Glu Glu Thr Asp		705	710	715		ttg taactggatc atcattgtga ttgcagatca tttgaggatc agagtgtaaa	2334	Leu		aacgagtttc tctttacag attctccaag atttgtttct gtgcccact ttcagaagag	2394	gaaaatcaca cattatgttt acataagtag caaaaatata ttatggta tctgcatttt	2454	cataataaag tgtccttattg tgaaacaaaa aaaaaaaaaa aaaaa	2499																																																																																																								
700																																																																																																																													
gat gta act gtg aag aat cca aaa gtt aag aaa aaa gaa gaa act gac	2281																																																																																																																												
Asp Val Thr Val Lys Asn Pro Lys Val Lys Lys Glu Glu Thr Asp																																																																																																																													
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Leu																																																																																																																													
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<213> Homo sapiens

<400> 247

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16U 200 PCT FINAL.ST25

Arg Gly Val Glu Pro Leu Glu Ala Ala Arg Ala Gln Pro Ala Lys Asp
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Arg Arg Ala Lys Gly Thr Pro Lys Ser Ser Lys Pro Gly Lys Lys His
35 40 45

Arg Tyr Leu Arg Leu Leu Pro Glu Ala Leu Ile Arg Phe Gly Gly Phe
50 55 60

Arg Lys Arg Lys Lys Ala Lys Ser Ser Val Ser Lys Lys Pro Gly Glu
65 70 75 80

Val Asp Asp Ser Leu Glu Gln Pro Cys Gly Leu Gly Cys Leu Val Ser
85 90 95

Thr Cys Cys Glu Cys Cys Asn Asn Ile Arg Cys Phe Met Ile Phe Tyr
100 105 110

Cys Ile Leu Leu Ile Cys Gln Gly Val Val Phe Gly Leu Ile Asp Val
115 120 125

Ser Ile Gly Asp Phe Gln Lys Glu Tyr Gln Leu Lys Thr Ile Glu Lys
130 135 140

Leu Ala Leu Glu Lys Ser Tyr Asp Ile Ser Ser Gly Leu Val Ala Ile
145 150 155 160

Phe Ile Ala Phe Tyr Gly Asp Arg Lys Lys Val Ile Trp Phe Val Ala
165 170 175

Ser Ser Phe Leu Ile Gly Leu Gly Ser Leu Leu Cys Ala Phe Pro Ser
180 185 190

Ile Asn Glu Glu Asn Lys Gln Ser Lys Val Gly Ile Glu Asp Ile Cys
195 200 205

Glu Glu Ile Lys Val Val Ser Gly Cys Gln Ser Ser Gly Ile Ser Phe
210 215 220

Gln Ser Lys Tyr Leu Ser Phe Phe Ile Leu Gly Gln Thr Val Gln Gly
225 230 235 240

Ile Ala Gly Met Pro Leu Tyr Ile Leu Gly Ile Thr Phe Ile Asp Glu
245 250 255

Asn Val Ala Thr His Ser Ala Gly Ile Tyr Leu Gly Ile Ala Glu Cys
260 265 270

Thr Ser Met Ile Gly Tyr Ala Leu Gly Tyr Val Leu Gly Ala Pro Leu
275 280 285

Val Lys Val Pro Glu Asn Thr Thr Ser Ala Thr Asn Thr Thr Val Asn
290 295 300

Asn Gly Ser Pro Glu Trp Leu Trp Thr Trp Trp Ile Asn Phe Leu Phe
305 310 315 320

Ala Ala Val Val Ala Trp Cys Thr Leu Ile Pro Leu Ser Cys Phe Pro

16U 200 PCT FINAL.ST25

325 330 335

Asn Asn Met Pro Gly Ser Thr Arg Ile Lys Ala Arg Lys Arg Lys Gln
340 345 350

Leu His Phe Phe Asp Ser Arg Leu Lys Asp Leu Lys Leu Gly Thr Asn
355 360 365

Ile Lys Asp Leu Cys Ala Ala Leu Trp Ile Leu Met Arg Asn Pro Val
370 375 380

Leu Ile Cys Leu Ala Leu Ser Lys Ala Thr Glu Tyr Leu Val Ile Ile
385 390 395 400

Gly Ala Ser Glu Phe Leu Pro Ile Tyr Leu Glu Asn Gln Phe Ile Leu
405 410 415

Thr Pro Thr Val Ala Thr Thr Leu Ala Gly Leu Val Leu Ile Pro Gly
420 425 430

Gly Ala Leu Gly Gln Leu Leu Gly Gly Val Ile Val Ser Thr Leu Glu
435 440 445

Met Ser Cys Lys Ala Leu Met Arg Phe Ile Met Val Thr Ser Val Ile
450 455 460

Ser Leu Ile Leu Leu Val Phe Ile Ile Phe Val Arg Cys Asn Pro Val
465 470 475 480

Gln Phe Ala Gly Ile Asn Glu Asp Tyr Asp Gly Thr Arg Lys Leu Gly
485 490 495

Asn Leu Thr Ala Pro Cys Asn Glu Lys Cys Arg Cys Ser Ser Ser Ile
500 505 510

Tyr Ser Ser Ile Cys Gly Arg Asp Asp Ile Glu Tyr Phe Ser Ala Cys
515 520 525

Phe Ala Gly Cys Thr Tyr Ser Lys Ala Gln Asn Gln Lys Lys Met Tyr
530 535 540

Tyr Asn Cys Ser Cys Ile Lys Glu Gly Leu Ile Thr Ala Asp Ala Glu
545 550 555 560

Gly Asp Phe Ile Asp Ala Arg Pro Gly Lys Cys Asp Ala Lys Cys Tyr
565 570 575

Lys Leu Pro Leu Phe Ile Ala Phe Ile Phe Ser Thr Leu Ile Phe Ser
580 585 590

Gly Phe Ser Gly Val Pro Ile Val Leu Ala Met Thr Arg Val Val Pro
595 600 605

Asp Lys Leu Arg Ser Leu Ala Leu Gly Val Ser Tyr Val Ile Leu Arg
610 615 620

Ile Phe Gly Thr Ile Pro Gly Pro Ser Ile Phe Lys Met Ser Gly Glu
625 630 635 640

16U 200 PCT FINAL.ST25
 Thr Ser Cys Ile Leu Arg Asp Val Asn Lys Cys Gly His Thr Gly Arg
 645 650 655

Cys Trp Ile Tyr Asn Lys Thr Lys Met Ala Phe Leu Leu Val Gly Ile
660 665 670

Cys Phe Leu Cys Lys Leu Cys Thr Ile Ile Phe Thr Thr Ile Ala Phe
675 680 685

Phe Ile Tyr Lys Arg Arg Leu Asn Glu Asn Thr Asp Phe Pro Asp Val
690 695 700

Thr Val Lys Asn Pro Lys Val Lys Lys Lys Glu Glu Thr Asp Leu
705 710 715

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<213> *Homo sapiens*

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<222> (37)..(831)
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 Val Arg Ser Ser Leu Leu Gly Ile Leu Leu Gln Val Thr Arg Leu Ser
 10 15 20

gtg ctg ttg gtt cag aac cga gat cac ctc tat aat ttc ctg ctc ctc 150
Val Leu Leu Val Gln Asn Arg Asp His Leu Tyr Asn Phe Leu Leu Leu
25 30 35

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aag atc aac ctc ttc aac cac tgg gtg tca ggg ctg gcc cag gag gcc 198
Lys Ile Asn Leu Phe Asn His Trp Val Ser Gly Leu Ala Gln Glu Ala
        40          45          50

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cgg ggg tcc tgt aac tgg cag gcc cac cta ccc ctg gga gct gca gcc 246
 Arg Gly Ser Cys Asn Trp Gln Ala His Leu Pro Leu Gly Ala Ala Ala
 55 60 65 70

tgc ccc ctg ggc cag gct ctc tgg gct ggg ctg gct ctg ata cag gtc	294
Cys Pro Leu Gly Gln Ala Leu Trp Ala Gly Leu Ala Leu Ile Gln Val	
75 80 85	

ccc gta tgg ctg gtg cta cag gga ccc agg ctg atg tgg gct ggc atg 342
 Pro Val Trp Leu Val Leu Gln Gly Pro Arg Leu Met Trp Ala Gly Met
 90 95 100

tgg ggc agc acc aag ggc ctg ggc ctg gcc ttg ctc agt gcc tgg gag 390
 Trp Gly Ser Thr Lys Gly Leu Gly Leu Ala Leu Leu Ser Ala Trp Glu
 105 110 115

cag	ctg	ggc	ctg	tct	gtg	gcc	atc	tgg	aca	gat	ctg	ttt	ttg	tca	tgt	438
Gln	Leu	Gly	Leu	Ser	Val	Ala	Ile	Trp	Thr	Asp	Leu	Phe	Leu	Ser	Cys	
120				125					130							

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ctg cac ggc ctg atg ttg gtg gcc ttg ctc ttg gtg gta gtg acc tgg 486
Leu His Gly Leu Met Leu Val Ala Leu Leu Leu Val Val Val Val Thr Trp
135          140          145          150

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agg gtg tgt cag aag tcc cac tgc ttc cga ctg ggc agg cag ctc agt 534
 Arg Val Cys Gln Lys Ser His Cys Phe Arg Leu Gly Arg Gln Leu Ser
 155 160 165

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aag gcc ttg caa gtg aac tgc gtg gta agg aag ctc ctg gta cag ctg      582
Lys Ala Leu Gln Val Asn Cys Val Val Arg Lys Leu Leu Val Gln Leu
   170          175          180

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16U 200 PCT FINAL.ST25

aga cgt ctg tat tgg tgg gtg gag act atg act gcc ctc acc tcc tgg	630
Arg Arg Leu Tyr Trp Trp Val Glu Thr Met Thr Ala Leu Thr Ser Trp	
185 190 195	
cac ctg gcc tat ctc atc acc tgg acc acc tgc ctg gcc tcc cac ctg	678
His Leu Ala Tyr Leu Ile Thr Trp Thr Thr Cys Leu Ala Ser His Leu	
200 205 210	
ctg cag gct gcc ttt gag cac acg acc cag ctg gcc gag gcc cag gag	726
Leu Gln Ala Ala Phe Glu His Thr Thr Gln Leu Ala Glu Ala Gln Glu	
215 220 225 230	
gtt gaa ccc cag gag gtc tca ggg tct tcc ttg ctg ccc tca ctg tct	774
Val Glu Pro Gln Glu Val Ser Gly Ser Ser Leu Leu Pro Ser Leu Ser	
235 240 245	
gcg tcc tcg gac tca gag tct gga aca gtt ttg cca gag caa gaa act	822
Ala Ser Ser Asp Ser Glu Ser Gly Thr Val Leu Pro Glu Gln Glu Thr	
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ccc aga gaa taaatgtatc cccatctgcc	851
Pro Arg Glu	
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<211> 265

<212> PRT

<213> Homo sapiens

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Tyr Asn Phe Leu Leu Lys Ile Asn Leu Phe Asn His Trp Val Ser	
35 40 45	

Gly Leu Ala Gln Glu Ala Arg Gly Ser Cys Asn Trp Gln Ala His Leu	
50 55 60	

Pro Leu Gly Ala Ala Ala Cys Pro Leu Gly Gln Ala Leu Trp Ala Gly	
65 70 75 80	

Leu Ala Leu Ile Gln Val Pro Val Trp Leu Val Leu Gln Gly Pro Arg	
85 90 95	

Leu Met Trp Ala Gly Met Trp Gly Ser Thr Lys Gly Leu Gly Leu Ala	
100 105 110	

Leu Leu Ser Ala Trp Glu Gln Leu Gly Leu Ser Val Ala Ile Trp Thr	
115 120 125	

Asp Leu Phe Leu Ser Cys Leu His Gly Leu Met Leu Val Ala Leu Leu	
130 135 140	

Leu Val Val Val Thr Trp Arg Val Cys Gln Lys Ser His Cys Phe Arg	
145 150 155 160	

Leu Gly Arg Gln Leu Ser Lys Ala Leu Gln Val Asn Cys Val Val Arg	
165 170 175	

Lys Leu Leu Val Gln Leu Arg Arg Leu Tyr Trp Trp Val Glu Thr Met	
180 185 190	

16U 200 PCT FINAL.ST25

Thr Ala Leu Thr Ser Trp His Leu Ala Tyr Leu Ile Thr Trp Thr Thr
 195 200 205

Cys Leu Ala Ser His Leu Leu Gln Ala Ala Phe Glu His Thr Thr Gln
 210 215 220

Leu Ala Glu Ala Gln Glu Val Glu Pro Gln Glu Val Ser Gly Ser Ser
 225 230 235 240

Leu Leu Pro Ser Leu Ser Ala Ser Ser Asp Ser Glu Ser Gly Thr Val
 245 250 255

Leu Pro Glu Gln Glu Thr Pro Arg Glu
 260 265

<210> 250

<211> 784

<212> DNA

<213> Homo sapiens

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<222> (97)..(579)

<223>

<400> 250

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aaagttcaga cccaggaaaa ttccatcatgtt acctta atg aaa aag ata gaa atc 114
 Met Lys Lys Ile Glu Ile
 1 5

agt ggg acg tgt ctt tcc ttt cat ctc ctt ttc ggc ttg gaa atc aga 162
 Ser Gly Thr Cys Leu Ser Phe His Leu Leu Phe Gly Leu Glu Ile Arg
 10 15 20

atg aga agg att gtt ttt gct ggt gtt atc tta ttc cgc ctc tta ggt 210
 Met Arg Arg Ile Val Phe Ala Gly Val Ile Leu Phe Arg Leu Leu Gly
 25 30 35

gtt atc tta ttc cgc ctc tta ggt gtt atc tta ttc ggc cgc tta ggt 258
 Val Ile Leu Phe Arg Leu Leu Gly Val Ile Leu Phe Gly Arg Leu Gly
 40 45 50

gac ctg gga acc tgc cag aca aaa cct ggt cag tac tgg aaa gaa gag 306
 Asp Leu Gly Thr Cys Gln Thr Lys Pro Gly Gln Tyr Trp Lys Glu Glu
 55 60 65 70

gtc cac att caa gat gtt gga ggt ttg att tgc aga gca tgc aat ctt 354
 Val His Ile Gln Asp Val Gly Leu Ile Cys Arg Ala Cys Asn Leu
 75 80 85

tca ctg ccc ttc cat gga tgt ctt tta gac ctg gga acc tgc cag gca 402
 Ser Leu Pro Phe His Gly Cys Leu Leu Asp Leu Gly Thr Cys Gln Ala
 90 95 100

gaa cct ggt cag tac tgt aaa gaa gag gtc cac att caa ggt ggc att 450
 Glu Pro Gly Gln Tyr Cys Lys Glu Glu Val His Ile Gln Gly Ile
 105 110 115

caa tgg tat tca gtc aaa ggc tgc aca aag aac aca tca gag tgc ttc 498
 Gln Trp Tyr Ser Val Lys Gly Cys Thr Lys Asn Thr Ser Glu Cys Phe
 120 125 130

aag agt act ctc gtc aag aga att ctg caa ctg cat gaa ctt gta act 546
 Lys Ser Thr Leu Val Lys Arg Ile Leu Gln Leu His Glu Leu Val Thr
 135 140 145 150

act cac tgc tgc aat cat tct ttg tgc aat ttc tgagtcatgt gccccatatct 599
 Thr His Cys Cys Asn His Ser Leu Cys Asn Phe
 155 160

aaaaatgcttg gcagatcaat cagtctcgaa gcctgacactg gctatcacaa aatgatggct 659

16U 200 PCT FINAL.ST25

attgtcaatt	agcccacttc	agaaacctca	gacccttgc	ttttagga	attttgatct	719
gaaaattgact	ttgggtttca	atattcccaa	tatctcccc	accacctcca	actcatctga	779
gaaaat						784

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<211> 161
<212> PRT
<213> Homo sapiens

<400> 251

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20	25	30

Leu Phe Arg Leu Leu Gly Val Ile Leu Phe Arg Leu Leu Gly Val Ile		
35	40	45

Leu Phe Gly Arg Leu Gly Asp Leu Gly Thr Cys Gln Thr Lys Pro Gly		
50	55	60

Gln Tyr Trp Lys Glu Glu Val His Ile Gln Asp Val Gly Gly Leu Ile			
65	70	75	80

Cys Arg Ala Cys Asn Leu Ser Leu Pro Phe His Gly Cys Leu Leu Asp		
85	90	95

Leu Gly Thr Cys Gln Ala Glu Pro Gly Gln Tyr Cys Lys Glu Glu Val		
100	105	110

His Ile Gln Gly Gly Ile Gln Trp Tyr Ser Val Lys Gly Cys Thr Lys		
115	120	125

Asn Thr Ser Glu Cys Phe Lys Ser Thr Leu Val Lys Arg Ile Leu Gln		
130	135	140

Leu His Glu Leu Val Thr Thr His Cys Cys Asn His Ser Leu Cys Asn			
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Phe

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 Met Ala Glu Ala Ser Arg Trp His Arg Gly
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ggg gct tcg aaa cat aag ttg cat tac aga aag gaa gta gaa att aca	101
Gly Ala Ser Lys His Lys Leu His Tyr Arg Lys Glu Val Glu Ile Thr	
15 20 25	

acc aca ctt cag gaa ttg tta ctc tac ttt att ttt tta ata aac cta	149
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Thr Thr Leu Gln Glu Leu Leu Leu Tyr Phe Ile Phe Leu Ile Asn Leu	30	35	40	
tgt ata ttg act ttt ggg atg gta aac cca cat atg tat tac tta aac				197
Cys Ile Leu Thr Phe Gly Met Val Asn Pro His Met Tyr Tyr Leu Asn				
45	50	55		
aag gtt atg tca tct cta ttt ttg gac act tct gtg cct ggt gaa gaa				245
Lys Val Met Ser Ser Leu Phe Leu Asp Thr Ser Val Pro Gly Glu Glu				
60	65	70		
aga acc aac ttt aag tcc att cgc agc ata act gat ttt tgg aag ttt				293
Arg Thr Asn Phe Lys Ser Ile Arg Ser Ile Thr Asp Phe Trp Lys Phe				
75	80	85	90	
atg gaa gga ccc ctt ttg gaa ggt ctg tac tgg gat tca tgg tac aat				341
Met Glu Gly Pro Leu Leu Glu Gly Leu Tyr Trp Asp Ser Trp Tyr Asn				
95	100	105		
aac cag cag ctg tat aat tta aag aac agc agt cgc atc tac tat gaa				389
Asn Gln Gln Leu Tyr Asn Leu Lys Asn Ser Ser Arg Ile Tyr Tyr Glu				
110	115	120		
aat ata ctt cta gga gtt ccc aga gtt cgt caa cta aaa gtc cgc aac				437
Asn Ile Leu Leu Gly Val Pro Arg Val Arg Gln Leu Lys Val Arg Asn				
125	130	135		
aac aca tgc aaa gtc tat tca tct ttt cag tct ttg atg agt gaa tgt				485
Asn Thr Cys Lys Val Tyr Ser Ser Phe Gln Ser Leu Met Ser Glu Cys				
140	145	150		
tat ggc aaa tat act tct gca aat gaa gac ctc tct aat ttt ggc ctt				533
Tyr Gly Lys Tyr Thr Ser Ala Asn Glu Asp Leu Ser Asn Phe Gly Leu				
155	160	165	170	
caa att aat act gaa tgg aga tat tct act tct aat acc aac tcc cct				581
Gln Ile Asn Thr Glu Trp Arg Tyr Ser Thr Ser Asn Thr Asn Ser Pro				
175	180	185		
tgg cac tgg gga ttt ctt ggt gtt tac cga aat ggg gga tac att ttc				629
Trp His Trp Gly Phe Leu Gly Val Tyr Arg Asn Gly Gly Tyr Ile Phe				
190	195	200		
act tta tca aaa tcg aaa tct gaa acc aaa aac aag ttc att gac ctt				677
Thr Leu Ser Lys Ser Glu Thr Lys Asn Lys Phe Ile Asp Leu				
205	210	215		
cga ctg aac agc tgg atc aca aga ggg act aga gtt att ttt att gat				725
Arg Leu Asn Ser Trp Ile Thr Arg Gly Thr Arg Val Ile Phe Ile Asp				
220	225	230		
ttt tcc tta tat aat gct aat gta aat cta ttt tgt att atc aga ttg				773
Phe Ser Leu Tyr Asn Ala Asn Val Asn Leu Phe Cys Ile Ile Arg Leu				
235	240	245	250	
gtg gca gaa ttc cct gca act gga gga ata ctt act tca tgg cag ttt				821
Val Ala Glu Phe Pro Ala Thr Gly Gly Ile Leu Thr Ser Trp Gln Phe				
255	260	265		
tac tct gtg aag ctc ctc aga tat gtt agc tac tat gac tat ttt att				869
Tyr Ser Val Lys Leu Leu Arg Tyr Val Ser Tyr Tyr Asp Tyr Phe Ile				
270	275	280		
gct tcc tgt gaa atc aca ttc tgt att ttt ctt ttt gtc ttc aca aca				917
Ala Ser Cys Glu Ile Thr Phe Cys Ile Phe Leu Phe Val Phe Thr Thr				
285	290	295		
caa gaa gtc aaa aaa ata aaa gaa ttt aag tct gcc tat ttc aaa agt				965
Gln Glu Val Lys Lys Ile Lys Glu Phe Lys Ser Ala Tyr Phe Lys Ser				
300	305	310		
att tgg aac tgg cta gaa ttg cta ctt ttg ctg ttg tgt ttt gtg gct				1013
Ile Trp Asn Trp Leu Glu Leu Leu Leu Leu Cys Phe Val Ala				
315	320	325	330	
gtt tcc ttc aac aca tac tat aat gta caa att ttt ctc tta ctt gga				1061
Val Ser Phe Asn Thr Tyr Tyr Asn Val Gln Ile Phe Leu Leu Gly				
335	340	345		

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cag ctg ttg aaa agt act gaa aaa tat tca gat ttc tat ttt ctt gca Gln Leu Leu Lys Ser Thr Glu Lys Tyr Ser Asp Phe Tyr Phe Leu Ala 350 355 360	1109
tgc tgg cac att tat tac aat aat ata att gct att acc atc ttt ttt Cys Trp His Ile Tyr Tyr Asn Asn Ile Ile Ala Ile Thr Ile Phe Phe 365 370 375	1157
gca tgg ata aag ata ttc aaa ttc ata agc ttt aac aag aca atg tct Ala Trp Ile Lys Ile Phe Lys Phe Ile Ser Phe Asn Lys Thr Met Ser 380 385 390	1205
cag ctg tca tca acc ttg tcc cgt tgt gtt aaa gac ata gta gga ttt Gln Leu Ser Ser Thr Leu Ser Arg Cys Val Lys Asp Ile Val Gly Phe 395 400 405 410	1253
gcc atc atg ttt ttt ata ata ttc ttt gct tat gcc cag tta gga ttt Ala Ile Met Phe Phe Ile Ile Phe Ala Tyr Ala Gln Leu Gly Phe 415 420 425	1301
ctt gtt ttt gga tca caa gtt gat gac ttt tcc act ttt cag aat tcc Leu Val Phe Gly Ser Gln Val Asp Asp Phe Ser Thr Phe Gln Asn Ser 430 435 440	1349
ata ttt gca caa ttt cga att gtt ctt gga gat ttt aat ttt gct ggt Ile Phe Ala Gln Phe Arg Ile Val Leu Gly Asp Phe Asn Phe Ala Gly 445 450 455	1397
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atc ttt ttt gtg ttc ttt gtc ctg ctg aat atg ttc ttg gca att att Ile Phe Phe Val Phe Val Leu Leu Asn Met Phe Leu Ala Ile Ile 475 480 485 490	1493
aat gat acc tat tct gaa gtg aaa gct gac tat tca ata ggc aga agg Asn Asp Thr Tyr Ser Glu Val Lys Ala Asp Tyr Ser Ile Gly Arg Arg 495 500 505	1541
cca gat ttt gaa ctt ggc aaa atg att aaa cag agt tac aaa aat gtt Pro Asp Phe Glu Leu Gly Lys Met Ile Lys Gln Ser Tyr Lys Asn Val 510 515 520	1589
ctc gag aaa ttc aga ctg aag aaa gct caa aaa gat gaa gac aag aaa Leu Glu Lys Phe Arg Leu Lys Lys Ala Gln Lys Asp Glu Asp Lys Lys 525 530 535	1637
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gac gaa aat gag att caa aac gca gag cag atg aaa aaa tgg aaa gag Asp Glu Asn Glu Ile Gln Asn Ala Glu Gln Met Lys Lys Trp Lys Glu 555 560 565 570	1733
agg ctt gag aaa aag tat tat tct atg gaa att caa gat gac tac cag Arg Leu Glu Lys Tyr Tyr Ser Met Glu Ile Gln Asp Asp Tyr Gln 575 580 585	1781
cct gtc act caa gaa gaa ttt cga gat ggc acc aca acc aag tac aaa Pro Val Thr Gln Glu Glu Phe Arg Asp Gly Thr Thr Lys Tyr Lys 590 595 600	1829
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35 40 45

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50 55 60

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65 70 75 80

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85 90 95

Glu Gly Leu Tyr Trp Asp Ser Trp Tyr Asn Asn Gln Gln Leu Tyr Asn
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Leu Lys Asn Ser Ser Arg Ile Tyr Tyr Glu Asn Ile Leu Leu Gly Val
115 120 125

Pro Arg Val Arg Gln Leu Lys Val Arg Asn Asn Thr Cys Lys Val Tyr
130 135 140

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180 185 190

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195 200 205

Ser Glu Thr Lys Asn Lys Phe Ile Asp Leu Arg Leu Asn Ser Trp Ile
210 215 220

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225 230 235 240

Asn Val Asn Leu Phe Cys Ile Ile Arg Leu Val Ala Glu Phe Pro Ala
245 250 255

Thr Gly Gly Ile Leu Thr Ser Trp Gln Phe Tyr Ser Val Lys Leu Leu
260 265 270

Arg Tyr Val Ser Tyr Tyr Asp Tyr Phe Ile Ala Ser Cys Glu Ile Thr
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305 310 315 320

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325 330 335

Tyr Asn Val Gln Ile Phe Leu Leu Gly Gln Leu Leu Lys Ser Thr
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Glu Lys Tyr Ser Asp Phe Tyr Phe Leu Ala Cys Trp His Ile Tyr Tyr
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465 470 475 480

Val Leu Leu Asn Met Phe Leu Ala Ile Ile Asn Asp Thr Tyr Ser Glu
485 490 495

Val Lys Ala Asp Tyr Ser Ile Gly Arg Arg Pro Asp Phe Glu Leu Gly
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515 520 525

Lys Lys Ala Gln Lys Asp Glu Asp Lys Lys Thr Lys Gly Ser Gly Asp
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Leu Ala Glu Gln Ala Arg Arg Glu Gly Phe Asp Glu Asn Glu Ile Gln
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565 570 575

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Gln Gly Leu Ser Gln Ala Val Pro Arg His Thr Ile Arg Glu Leu Leu			
35 40 45			
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Asp Pro Ser Arg Gln Lys Lys Leu Val Leu Gly Asp Gln His Gln Leu			
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Val Arg Phe Ser Ile Lys Pro Gln Arg Ile Glu Gln Ile Ser His Ala			
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Gln Arg Leu Leu Ser Arg Leu His Val Arg Cys Ser Gln Arg Pro Pro			
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Leu Ser Leu Trp Ala Gly Trp Val Leu Glu Cys Pro Leu Phe Lys Asn			
100 105 110			
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Phe Ile Ile Phe Leu Val Phe Leu Asn Thr Ile Ile Leu Met Val Glu			
115 120 125			
ata gaa ttg ctg gaa tcc aca aat acc aaa cta tgg cca ttg aag ctg			
Ile Glu Leu Leu Glu Ser Thr Asn Thr Lys Leu Trp Pro Leu Lys Leu			
130 135 140			
acc ttg gag gtg gca gct tgg ttt atc ttg ctt att ttc atc ctg gag			
Thr Leu Glu Val Ala Ala Trp Phe Ile Leu Leu Ile Phe Ile Leu Glu			
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Val Val Val Leu Val Gly Val Thr Gly Gln Ser Val Trp Leu Gln Leu			
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Arg Gln Ile Gln Ile Ile Leu Val Leu Val Arg Ala Leu Lys Ser			
225 230 235 240			
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gtg act ggt gtc tac gtc ttc tca gag tac acc cgt tca cct cgt cag		816
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Asp Leu Glu Tyr His Val Phe Phe Ser Asp Leu Pro Asn Ser Leu Val		
275	280	285
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Thr Val Phe Ile Leu Phe Thr Leu Asp His Trp Tyr Ala Leu Leu Gln		
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Asp Val Trp Lys Val Pro Glu Val Ser Arg Ile Phe Ser Ser Ile Tyr		
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Val Ala Met Met Val Thr Asn Phe Gln Asn Ile Arg Lys Glu Leu Asn		
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Arg Gln Ile Ile Gln Arg Arg Lys Asn Met Ser His Glu Ala Leu Thr		
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Ser Leu Asp Leu Ser Glu Val Ser Glu Val Glu Ser Asn Tyr Gly Ala		
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Thr Glu Glu Asp Leu Ile Thr Ser Ala Ser Lys Thr Glu Glu Thr Leu		
420	425	430
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Ser Lys Lys Arg Glu Tyr Gln Ser Ser Ser Cys Val Ser Ser Thr Ser		
435	440	445
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Ser Ser Tyr Ser Ser Ser Glu Ser Arg Phe Ser Glu Ser Ile Gly		
450	455	460
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Arg Leu Asp Trp Glu Thr Leu Val His Glu Asn Leu Pro Gly Leu Met		
465	470	475
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gaa atg gat cag gat gac cgt gtt tgg ccc aga gac tca ctc ttc cga		1488
Glu Met Asp Gln Asp Asp Arg Val Trp Pro Arg Asp Ser Leu Phe Arg		
485	490	495
tat ttt gag ttg cta gaa aag ctt cag tat aac cta gag gaa cgt aag		1536
Tyr Phe Glu Leu Leu Glu Lys Leu Gln Tyr Asn Leu Glu Arg Lys		
500	505	510
aag tta caa gag ttt gca gtg cag gca ctg atg aac ttg gaa gac aag		1584
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35 40 45

Asp Pro Ser Arg Gln Lys Lys Leu Val Leu Gly Asp Gln His Gln Leu
50 55 60

Val Arg Phe Ser Ile Lys Pro Gln Arg Ile Glu Gln Ile Ser His Ala
65 70 75 80

Gln Arg Leu Leu Ser Arg Leu His Val Arg Cys Ser Gln Arg Pro Pro
85 90 95

Leu Ser Leu Trp Ala Gly Trp Val Leu Glu Cys Pro Leu Phe Lys Asn
100 105 110

Phe Ile Ile Phe Leu Val Phe Leu Asn Thr Ile Ile Leu Met Val Glu
115 120 125

Ile Glu Leu Leu Glu Ser Thr Asn Thr Lys Leu Trp Pro Leu Lys Leu
130 135 140

Thr Leu Glu Val Ala Ala Trp Phe Ile Leu Leu Ile Phe Ile Leu Glu
145 150 155 160

Ile Leu Leu Lys Trp Leu Ser Asn Phe Ser Val Phe Trp Lys Ser Ala
165 170 175

Trp Asn Val Phe Asp Phe Val Val Thr Met Leu Ser Leu Leu Pro Glu
180 185 190

Val Val Val Leu Val Gly Val Thr Gly Gln Ser Val Trp Leu Gln Leu
195 200 205

Leu Arg Ile Cys Arg Val Leu Arg Ser Leu Lys Leu Leu Ala Gln Phe
210 215 220

Arg Gln Ile Gln Ile Ile Leu Val Leu Val Arg Ala Leu Lys Ser
225 230 235 240

Met Thr Phe Leu Leu Met Leu Leu Ile Phe Phe Tyr Ile Phe Ala
245 250 255

Val Thr Gly Val Tyr Val Phe Ser Glu Tyr Thr Arg Ser Pro Arg Gln
260 265 270

Asp Leu Glu Tyr His Val Phe Phe Ser Asp Leu Pro Asn Ser Leu Val
275 280 285

Thr Val Phe Ile Leu Phe Thr Leu Asp His Trp Tyr Ala Leu Leu Gln
290 295 300

Asp Val Trp Lys Val Pro Glu Val Ser Arg Ile Phe Ser Ser Ile Tyr

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Val Ala Met Met Val Thr Asn Phe Gln Asn Ile Arg Lys Glu Leu Asn	350
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Glu Glu Met Ala Arg Arg Glu Val Gln Leu Lys Ala Asp Met Phe Lys	365
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Arg Gln Ile Ile Gln Arg Arg Lys Asn Met Ser His Glu Ala Leu Thr	380
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Ser Ser His Ser Lys Ile Glu Asp Arg Gly Ala Ser Gln Gln Arg Glu	400
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420	425
Ser Lys Lys Arg Glu Tyr Gln Ser Ser Ser Cys Val Ser Ser Thr Ser	445
435	440
Ser Ser Tyr Ser Ser Ser Ser Glu Ser Arg Phe Ser Glu Ser Ile Gly	460
450	455
Arg Leu Asp Trp Glu Thr Leu Val His Glu Asn Leu Pro Gly Leu Met	480
465	470
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Glu Met Asp Gln Asp Asp Arg Val Trp Pro Arg Asp Ser Leu Phe Arg	495
485	490
Tyr Phe Glu Leu Leu Glu Lys Leu Gln Tyr Asn Leu Glu Glu Arg Lys	510
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